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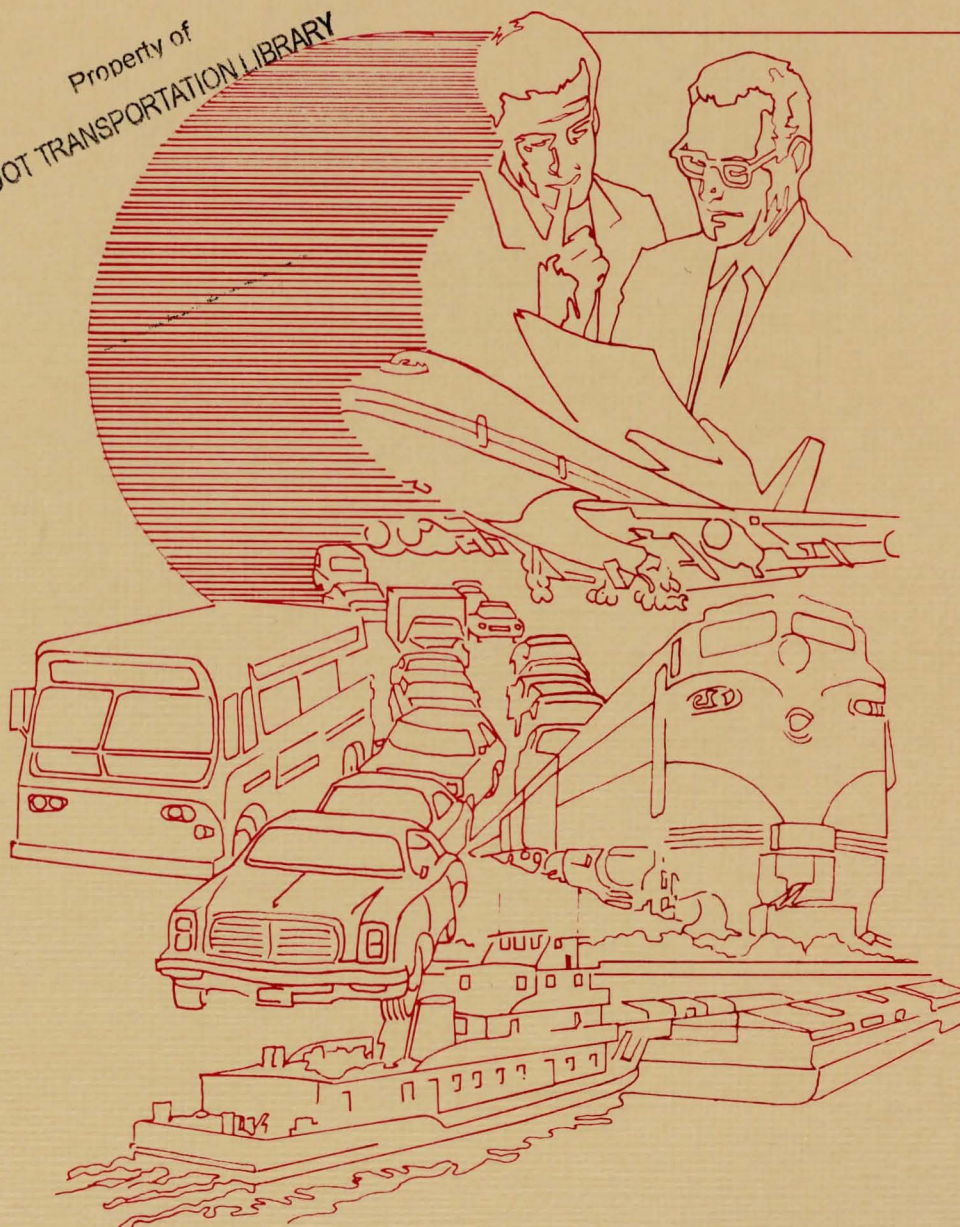
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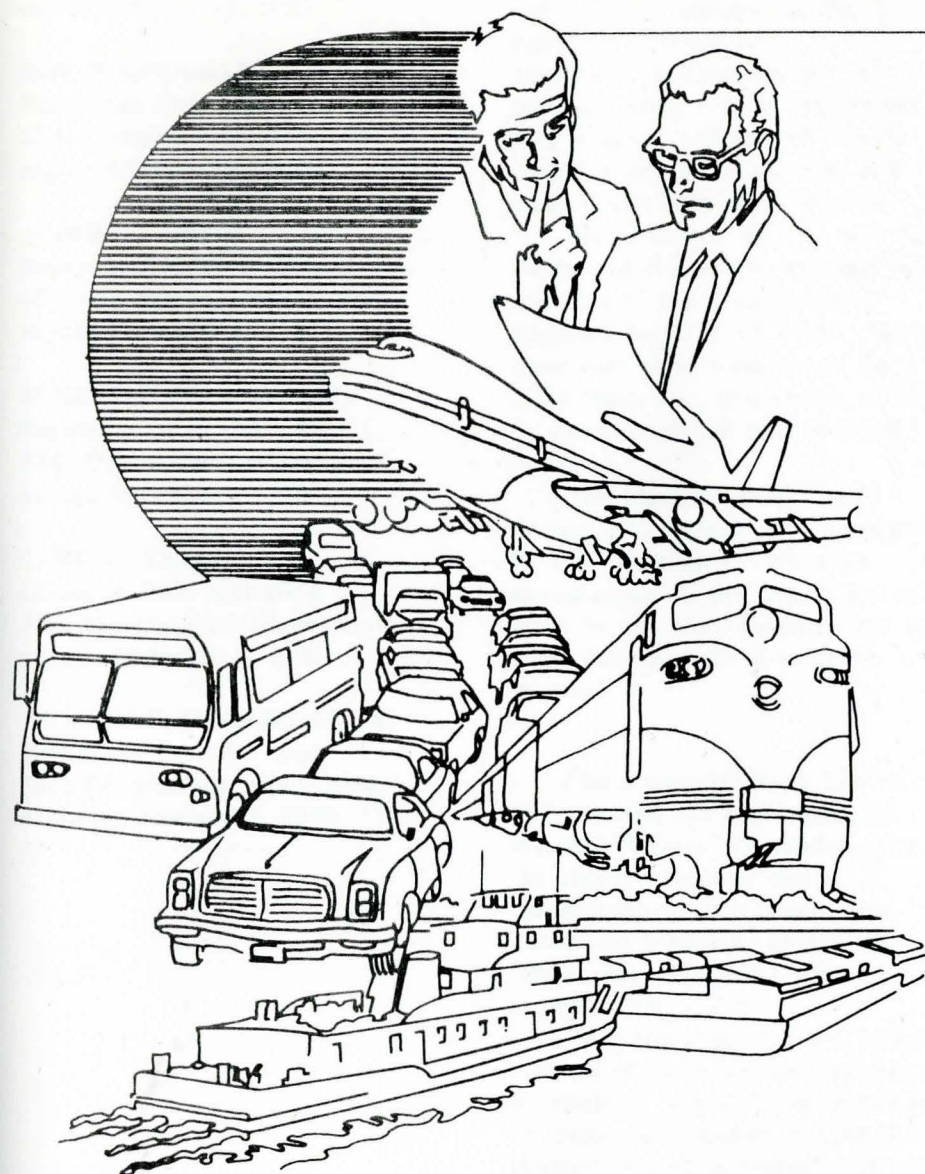
Missouri Highway & Transportation Commission

1981 Annual Report

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1981 Annual Report



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Prepared by: Public Information

Photos by: Surveys and Plans Division,
Photogrammetry Section

Required by statute, this report of 1981 accomplishments, highway and transportation system status and future goals is made to the Governor and Legislature of Missouri. It is also intended to be a guide into the inner workings of the Department for any citizen who wishes to know where, when and how his tax dollars are used. An informed and interested public is vital to the continued development and operation of Missouri's highway and transportation programs, especially in these times of declining revenues. Accordingly, copies of this report are available to the news media, public officials and interested citizens so far as published copies permit. It is the Department's sincere hope that the report will increase the understanding of Missouri's highway and transportation administration. Any inquiries are welcome.

The Missouri Highway and Transportation Commission

JAY B. DILLINGHAM, Chairman
Democrat from Kansas City
54th Commissioner whose term
expires October 13, 1983

ROY B. GOODHART, Vice-Chairman
Republican from Hannibal
55th Commissioner whose term
expires October 13, 1983

ALBERT C. RILEY
Democrat from New Madrid
45th Commissioner whose term
expires December 1, 1983

EUGENE J. FELDHAUSEN
Republican from Platte City
57th Commissioner whose term
expires December 1, 1985

CARL E. YATES
Democrat from Springfield
56th Commissioner whose term
expires December 1, 1985

WILLIAM F. SCHIERHOLZ JR.
Republican from St. Louis
58th Commissioner whose term
expires December 31, 1988

The six men who met once a month during 1981 to decide the future of Missouri's highway and transportation systems are the bipartisan Highway and Transportation Commission. As governing body for the Department, they establish policies and furnish overall guidance for the men and women who carry out the work.

The Governor, by and with the consent of the Senate, appoints the members of the Commission to staggered terms of six years. No more than three members of the Commission can, as a matter of law, be members of the same political party.

The Chief Engineer, Chief Counsel and Secretary are appointed by the Commission. All other appointments to the Department are made by the Chief Engineer and the Chief Counsel, with Commission approval.

The Centennial Road Law of 1921 created and empowered the Missouri Highway Commission (now the Missouri Highway and Transportation Commission) with duties and powers to govern the Department. Primarily those responsibilities include:

- *Supervise highways and bridges constructed, improved and maintained in whole or in part by state money or monies appropriated by the U.S. government and in keeping with acts of Congress relating thereto.

- *Make rules and regulations not inconsistent with law, fixing the duties of all persons employed by the Commission.

- *Aid county highway engineers or officials of other civil subdivisions in establishing gradients and alignments, and preparing suitable systems for maintenance of highways and bridges.

- *Cause standard plans, specifications and estimates to be prepared for repair and improvement of highways and construction and repair of bridges by civil subdivisions.

- *Investigate and determine the best methods of construction and maintenance of roads and bridges.

- *Aid at all times in promoting highway improvement.

- *Let all contracts for state highway construction or improvement.

- *Prescribe a system of auditing and accounting for all road and bridge monies for the use of highway officials.

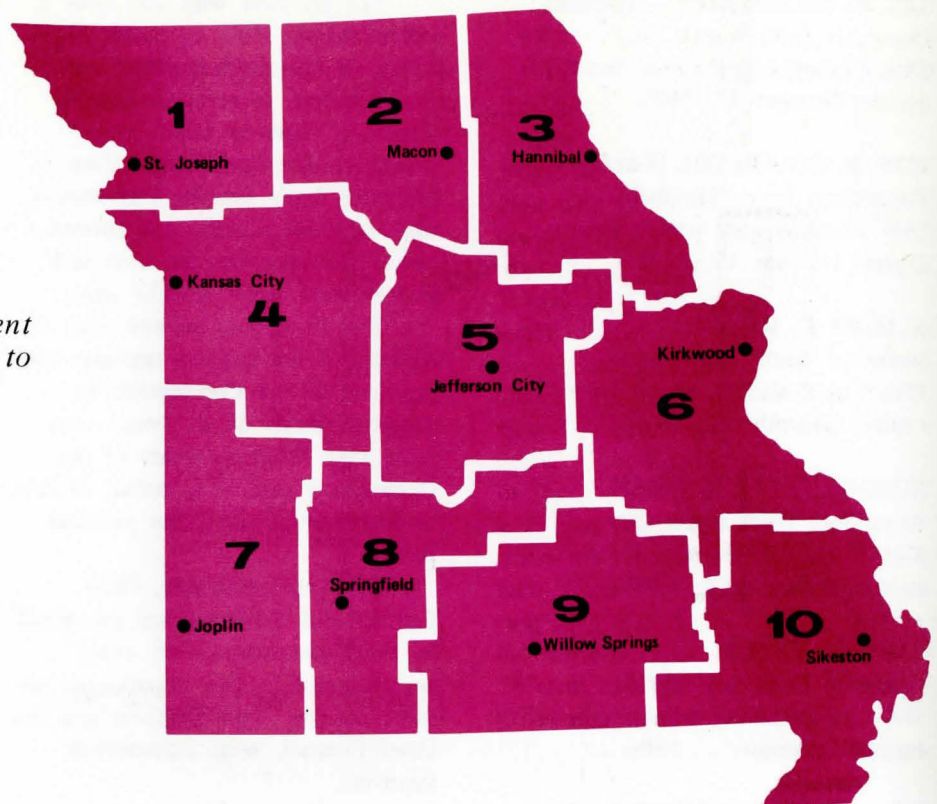
- *Construct under its own direction all state roads, culverts and bridges.

- *Compile statistics relating to public highways throughout the state.

Since the Department's merger with the Department of Transportation, the Commission has assumed the responsibilities of the former Transportation Commission. Those duties call for the development of transportation relating to all transportation modes for the state, including the consideration of applications for the organization of city or county port authorities, as well as appointment of bridge commissions.

Organization and Administration

Ten Districts insure Department highway and transportation attention to every area in Missouri.



Missouri's state Highway and Transportation Department shoulders responsibilities of five viable transportation alternatives available to Missourians—highways, aviation, waterways, transit and railroads. Those responsibilities include the total operation of the 32,000-mile highway system, including highway location, design, construction and maintenance.

In addition, the Department cooperates and coordinates with owners and operators of the remaining four modal systems in the development and improvement of airports, rail facilities, ports and the operational cost of transit systems. Key here also is the administration of state/federal programs and funds available with these modes.

The Highway and Transportation Department became such as of January 1980 when voters decided to merge the previous separate Highway and Transportation Departments by passing Constitutional Amendment #2 in November 1979. The Department operates under a decentralized organization with the Headquarters Office in Jefferson City. This office provides staff assistance and functional control for the various Departmental tasks to the ten geographic Districts of the Department.

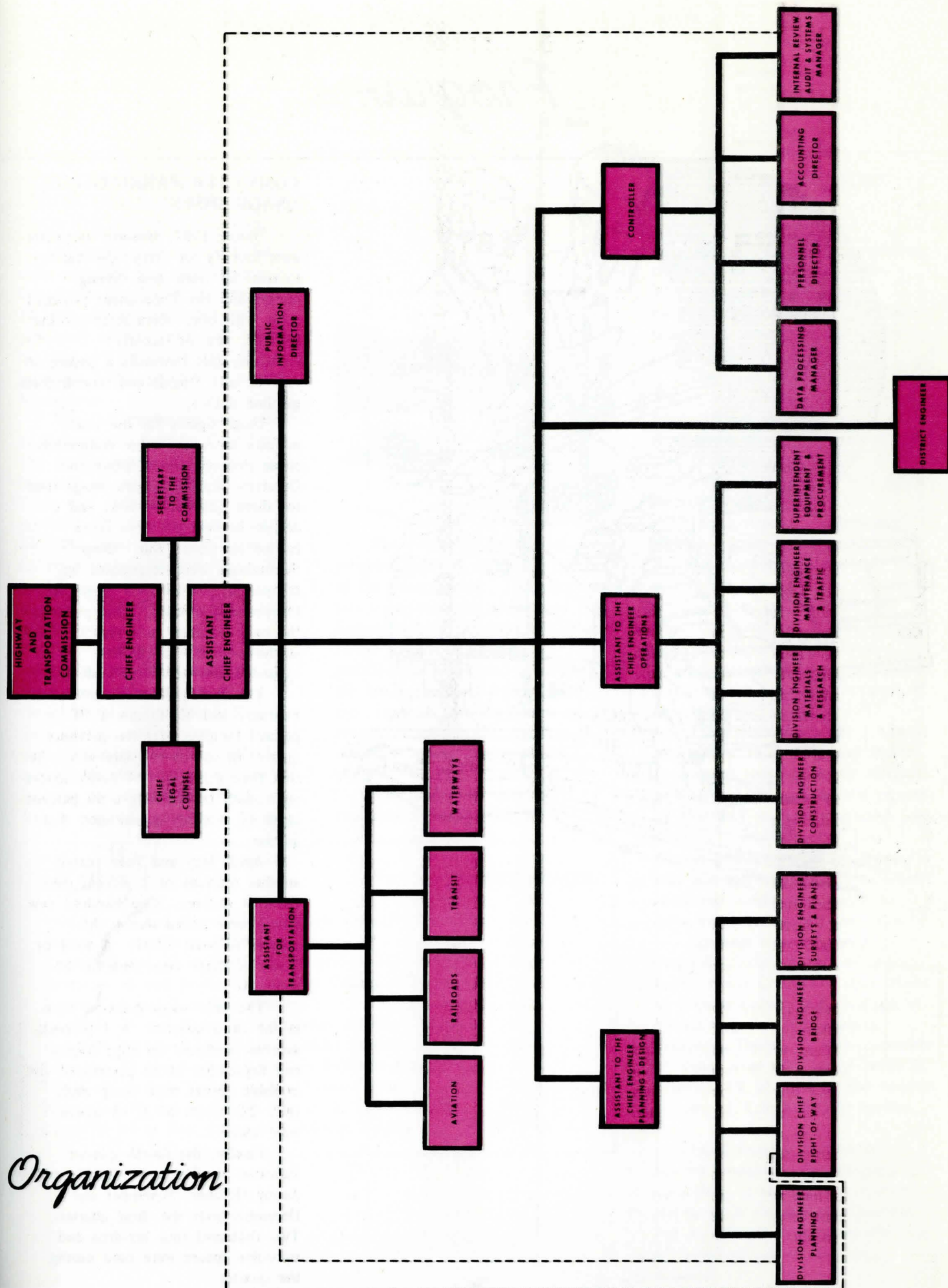
The Divisions within the Headquarters Office are responsible for bridge design and highway planning for the state. There are no counterparts for these particular Divisions in the Districts. Decisions about highway construction, maintenance and operations are made at the District level.

Encompassing about 12 counties, each District contains about 10 percent of the total road mileage in the highway system. Each District is under the direction of a District Engineer, who in turn is responsible for administering all activities in his District.

Transportation modes other than highways are established as units within the Headquarters Office and report to an Assistant Transportation Director. These units carry out the statewide planning for these modes—there are no counterparts in the Districts.

District headquarters offices are located in St. Joseph, Macon, Hannibal, Kansas City, Jefferson City, Kirkwood, Joplin, Springfield, Willow Springs and Sikeston.

Organization



Programs

COMMUTER PARKING LOT USAGE RISES

During 1981, Missouri motorists were looking for every opportunity to trim fat from their driving budget--and the Department provided them with one. Commuter parking lots--old, new or recently expanded--gave motorists a chance to carpool with friends and stretch their gasoline dollars.

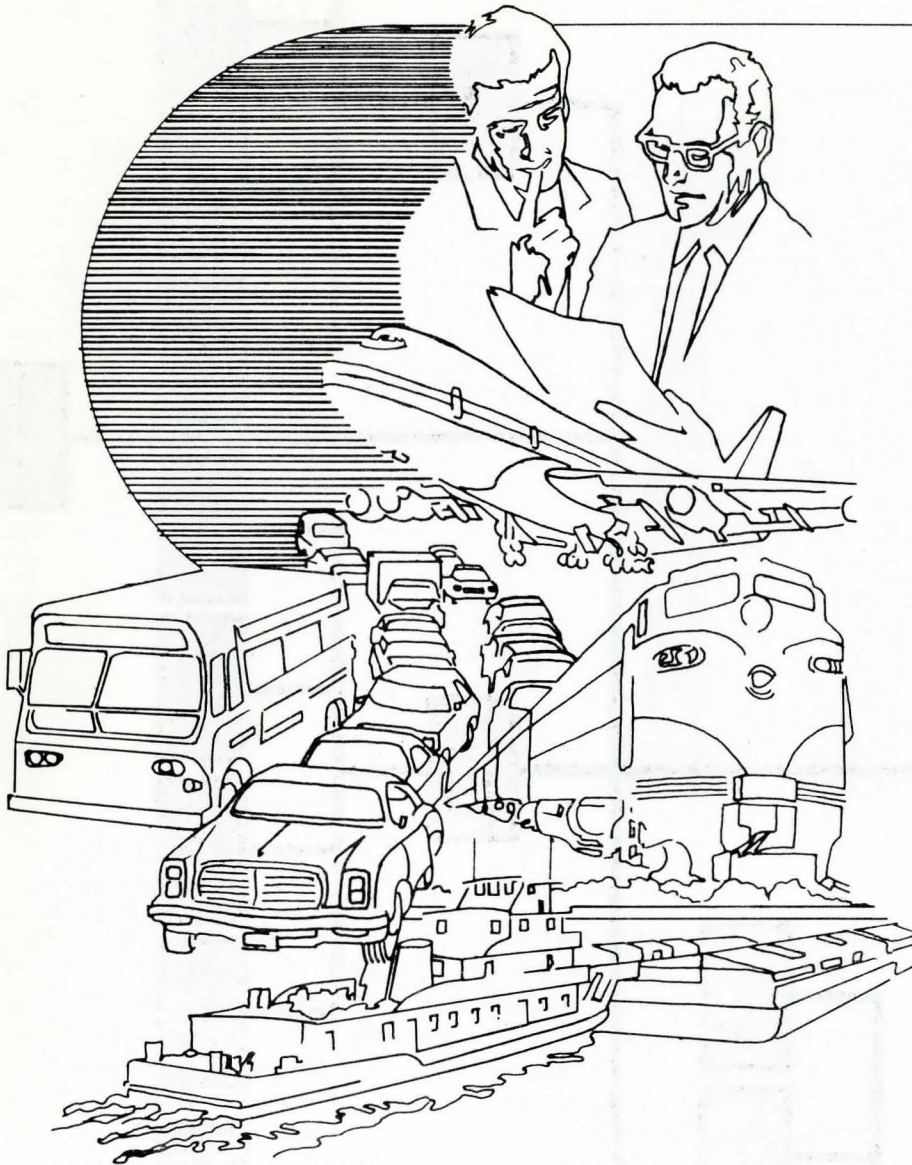
Usage figures for the year indicate more and more commuters chose this economical alternative. Quarterly reports indicate usage rises for three quarters of 1981 and a decline in one quarter--a trend carried on from 1980. Usage fluctuations were determined by comparing one quarter's usage with the previous quarter. This provides the most accurate reflection of use as the lots were continually expanded and new ones built.

The first quarter of January, February and March saw a 10 percent increase over the previous quarter in use of 61 state lots. At that time 2,252 out of 3,405 spaces were used, representing a 66 percent usage of available spaces used that quarter.

April, May and June posted another increase of 2 percent over the first quarter. One hundred new spaces were added during this quarter to total 3,505. A total of 2,307 of these were used (or 66 percent).

The only usage decrease came in the third quarter. A 1 percent decrease occurred in July, August and September as 62 percent of the available spaces were being used. Only 2,292 out of 3,718 spaces were used.

Finally, the fourth quarter indicated an 8 percent rise in usage during October, November and December over the third quarter. Two thousand four hundred and sixty-five spaces were used during the quarter.



NEW AND EXPANDED COMMUTER PARKING LOTS PROVIDE MORE SAVINGS

As increases in commuter lot usage indicated their popularity, Department employees constructed 11 new lots and expanded two previously existing ones. At the end of 1981, 69 commuter parking lots providing 3,858 spaces were serving Missourians.

The two expansions took place in Webster and Franklin Counties. The former involved a lot at Interstate 44 and Route 38. Thirty-two additional spaces were provided, bringing the total there to 64. The latter expansion increased a lot on Interstate 44 and Route 50 by 29 spaces. A total of 57 motorists could then take advantage of this lot.

The 11 new lots, as all others previously, were constructed by Department personnel on Departmental right-of-way. They were located predominately near metropolitan areas. They offer centrally located parking clear of roadway and shoulders. Most feature a gravel surface and fencing.



The commuter parking lot program began in 1973 as a result of the energy crisis. The objective was to decrease the number of automobiles on highways during peak traffic periods in or near metropolitan areas, and to decrease the amount of fuel used. Since then the lots have been built as studies indicate a need and the necessary right-of-way becomes available.

Specifically, the new lots constructed during 1981 are:

<u>LOCATION</u>	<u>NUMBER SPACES</u>
Interstate 29 and Route 71 in Andrew County	33
Routes 63 and EE in Randolph County	20
Routes 63 and 22 in Randolph County	20
Interstate 35 and Route 152 in Clay County	72
Routes 210 and Z in Ray County	25
Interstate 44 and Route C in Crawford County	29
Interstate 44 and Route 30 in Franklin County	51
Interstate 55 and Route 61 Spur in Jefferson County	29
Route 94 at Jung Station in St. Charles County	38
Interstate 270 and Route 30 S.E. in St. Louis County	144
Interstate 44 at East Lebanon in Laclede County	42

DEPARTMENT SPONSORS TRANSPORTATION CONFERENCE

How would federal deregulation of various transportation modes affect Missouri's small and medium-sized communities? What does the future hold in store for transportation in Missouri?

These and other questions dealing with all aspects of Missouri transportation were discussed by government officials and industry and user group representatives at a transportation conference held April 16 and 17 in Jefferson City.

The conference, made possible through a grant from the Ozarks Regional Commission, centered around the theme: "The Economy, Government, Transportation and Your Community." It was of particular importance to those communities who lost or might lose transportation services as a result of deregulation.

Those attending heard a balance of industry, user group and federal government views from top officials in each sector to get a total picture of how they would be affected. In addition, workshop panels for aviation, waterways, motor freight, rails and passenger carriers provided additional insight and chance to delve even further into the issues.

Speakers included David Traynham, aviation staff member, Public Works Committee, U.S. House of Representatives; M.F. McClain of Kansas City Southern Railway Company; Thomas J. Barta, president of Valley Line Co.; James Johnston, Standard Oil of Indiana; and Stephen Murphy of Yellow Freight System, Inc.

Chief Engineer Robert N. Hunter brought conference goers up-to-date on the highway system status, while Commission Chairman Jay B. Dillingham discussed the role of transportation in Missouri's economy.

DEPARTMENT OPERATES "RADIO STATION" FIRST

The Department doesn't normally dabble in the radio business, but in 1981, that proved to be an exception. Motorists traveling Interstate 70 between St. Louis and Kansas City were able to tune in one radio "station" owned and operated by the Department.

A first for the Department, the "station" was composed of two limited-range radio transmitters installed a mile-and-one-half west of Danville in Montgomery County. They were there to warn motorists of an approaching bridge construction which had closed the eastbound lanes over the Loutre River and routed traffic over the westbound lanes.

"Anytime you close a lane on an Interstate highway you have problems," Chief Engineer Hunter says. "But since this project was located between two steep hills, a

dangerous condition existed if a motorist sped through the area unadvised."

"Truckers, in particular, needed time to slow their rigs down before getting into the area," he adds.

So the Department turned to radio precautions to prepare motorists for what they would find ahead of time. Bright road signs were posted in advance of the one-mile broadcast range asking motorists to adjust their radio dials to 530 or 1610 AM frequency.

Once tuned in, a 30-second recorded message, one aimed for eastbound traffic and the other at westbound traffic, described what traffic conditions would soon be at hand and advised motorists to drive cautiously through the construction area.

The radio unit, which ran around the clock, remained in operation until the project was completed during the summer. Federal funds made it possible to purchase the radio unit. And after such success on its initial run, the Department plans to use it in other similar situations to provide more safe driving conditions for Missouri motorists.

TWO-YEAR MAP REFLECTS CONSTRUCTION DECLINE

In an effort to save dwindling funds, the Department developed the first two-year state road map for 1981-1982 since 1948-1949. With the Missouri Interstate system 96 percent complete and the lack of

sufficient funds, highway construction has been rapidly diminishing. And less construction meant fewer changes to record on the highway map. With less need to update the map Department officials saw a way to cut costs yet not service to motorists by going to the two-year map.

In years past the many changes taking place in the highway system required an updated map each year. For example, when Interstate construction began in 1956, it resulted in several years of major additions and changes in Missouri's highways. Between 1952 and 1962 the Department also assumed responsibility of 12,000 miles of Missouri supplementary roads--previously the responsibility of county courts, special road districts and other agencies. All brought major roadmap change.

The 1981-1982 map shows, for the first time, exit numbers for the Interstate routes. These numbered exits are posted and will facilitate entering and exiting on the system. The Truman reservoir--located in the west-central part of the state near Warsaw, Clinton and Osceola--is also shown for the first time.

Two million copies of the new two-year map were printed at a cost of 10 cents per map. In 1971 it cost the Department five cents per map. The first Missouri road map, as far as Commission files reveal, was prepared by the federal government in 1841. The Department first produced its own map in 1918. A road map has been printed for every year since that time, with the exception of 1943--a war year. In 1925 the Commission passed a motion for free distribution of the maps to automobile owners. That practice continues today, although those requesting it pay for its postage.

SAVINGS GAINED THROUGH RECLAMATION

The reclamation process basically involves refinishing the existing signs, as well as the secondary process of salvaging reusable portions for making smaller signs. The plant's operations have been able to sharply reduce the need to purchase new aluminum for road signs. And now today 79 percent of the metal signs provided to the Department's 10 Districts across the state are signs from the reclamation plant.

What alarms the Department is that many of these signs passing through the reclamation plant are there because they have been vandalized. Sign vandalism, besides being a dangerous practice that could easily lead to injury or death, is expensive.

The sign vandalism encountered by the Department last year on a statewide basis cost Missouri highway users an estimated \$731,000. Department engineers say that about 56 percent of all sign replacement in the state is due to sign vandalism.

"This cost incurred by Missouri road users is ridiculous and unnecessary," Hunter says, "besides the fact that sign vandals take a risk with the lives of others. Road signs are there for a purpose--to inform motorists of road conditions, which at times could be dangerous conditions. If the information on the sign has been distorted or altered or if the sign itself has been removed, there is no warning. Innocent travelers then become the victims. The absence of a sign could lead to a critical injury or even a death."

Each sign that must be replaced whether stolen, damaged, vandalized or outdated costs an average of \$12.44. Approximately six dump truck loads of signs no longer usable were received during 1981 at the

sign reclamation plant from each of the Department's 10 Districts.

"During this time of dwindling highway revenue, we sure have better things to spend our money on than replacing signs that have been vandalized," Hunter adds. "Let's hope that in the future we can use our funds to support the highway system and not worry about sign vandalism and the lives that are in jeopardy as a result of sign vandals."

In recent years highway and transportation departments across the nation have developed sign reclamation plants where formerly scrapped signs could be claimed for reuse. Such a plant was begun by the Department in 1977 and by reclaiming signs the Department has been able to conserve energy and materials.

The first year of the plant's operation, completed in 1978, showed some impressive figures, but 1981 can boast of even better savings for the Department. There were 47,390 signs reclaimed in 1981 and the total savings to the Department and the State of Missouri amount to approximately \$286,660.

"Prior to the Jefferson City reclamation plant's opening it was possible to reclaim only about 20 percent of the damaged signs returned from the roadways," Department Chief Engineer Robert N. Hunter says. "The remaining 80 percent of the damaged signs simply went to the scrap pile."

EXTRA AMTRAK STOPS AND ROUND TRIP OPTIONS ADDED

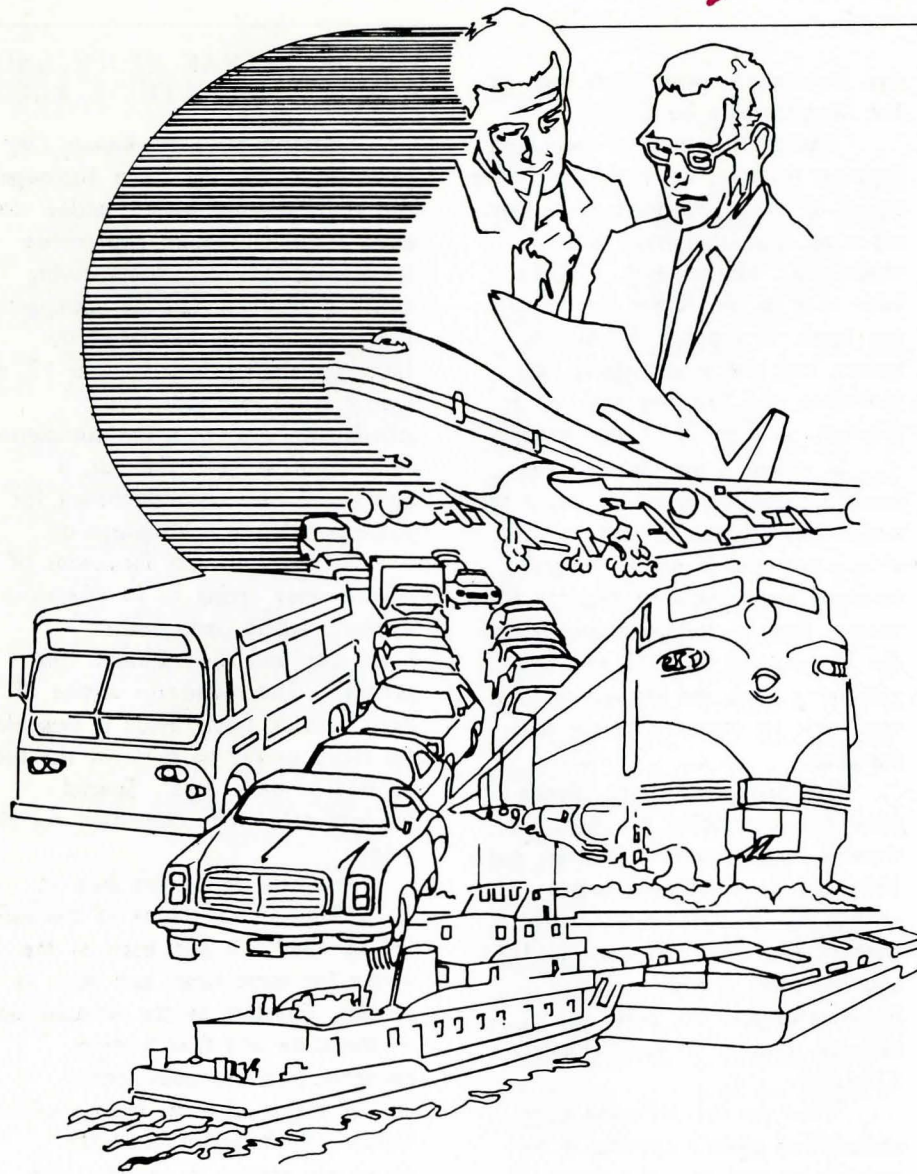
Amtrak's St. Louis-Kansas City passenger trains, the "Ann Rutledge" and the "Missouri Mule", added two extra stops and round trip service for Kansas City departures during 1981 to accommodate its passengers. For those wishing to attend the Hermann Maifest May 16 and 17, a special temporary stop was scheduled. And with the completion of a depot at Lee's Summit, a permanent stop was established for passengers to take advantage of.

Hermann attracts thousands of people every spring to its Maifest--a weekend where open-armed hospitality and old-fashioned fun prevails. The round-trip service of both Amtrak trains made it possible for more people to share in the fun on one or both days. Special one-way rates were computed for the stop.

The new permanent stop at Lee's Summit was added in the early fall of 1981. It had been in the works for some time, and with its coming, travelers on the western side of the state will find it more convenient to get train service.

A major schedule change on October 25 brought about the round-trip service in one day for Kansas Citians bound for St. Louis. Previously only those departing St. Louis for Kansas City had this option.

Progress



NEW TOURIST INFORMATION CENTERS OPEN AT ROCK PORT AND HANNIBAL

Motorists coming into Missouri near Rock Port and Hannibal saw a new welcoming sight this past year. Two new tourist centers opened to provide them with brochures, maps and information on all parts of the state.

The Hannibal center, located just south of Hannibal on Highway 61, unofficially opened in May. Its grand opening wasn't until October of 1981, however. So far, it has served as many as 82,000 motorists in its first few months of operation. The center is open seven days a week with summer hours of 9 a.m. to 7 p.m. and 9 a.m. to 5 p.m. winter hours.

The Rock Port center in northwest Missouri opened in the summer of 1981 and is part of a new highway rest area on the west side of Interstate 29--approximately one-half mile south of its junction with Highway 136. This is the first information center in northwest Missouri and will remain open year round for the 75,000 travelers expected to visit it each year. The center is open from 9 a.m. until 5 p.m. on Tuesdays through Saturday. Plans call for increasing the hours during the busy summer months.

Both centers were constructed by the Department and the Division of Tourism and are part of a major expansion of the information center program in Missouri. There are three other centers presently in operation--one on I-44 west of Joplin in southwest Missouri, one on I-270 north of St. Louis and one on I-55 near New Madrid in southeast Missouri.

I-229 SECTION OPENS IN ST. JOSEPH

Rain didn't dampen the spirits of highway and city officials November 30 as Commission Chairman Jay B. Dillingham snipped the ribbon marking the official opening of a 3.8-mile section of Interstate 229 in St. Joseph. The section, located between south 22nd Street and the downtown business district is the second completed phase of a three-part I-229 development plan in St. Joseph.

The first completed phase was a 2.5-mile section running from Interstate 29 to 22nd Street. It was opened to traffic in 1968. The remaining segment stretches 8.3 miles from downtown to I-29 in Andrew County.

The newly-opened second section has been eight years in the making. The first construction contract was awarded in March 1973. Fifteen contracts, seven contractors and \$59,406,400 later, the downtown I-29 link is almost halfway complete.



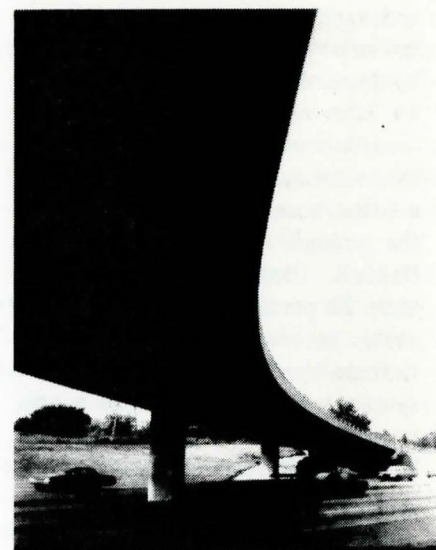
The new section features a wooden sound barrier to protect a nearby residential area from highway noise, an 1800-foot bridge over Atchison Street, half-diamond interchanges and a two-level riverfront section.

The total length of the I-229 development is 14.7 miles. The plan for its development was first presented in the 1955 Urban Highways Report, prepared by the Department in cooperation with the City of St. Joseph. I-229 then became part of the National System of Interstate and Defense Highways when the System was approved by Congress in 1956 during the Eisenhower administration.

In 1956 St. Joseph voters approved a \$1,250,000 bond issue providing for improvement of I-229, Route 36, Route 759 and Route 752. In 1964 there was a second bond issue. This one, in the amount of \$550,000, was approved to complete the purchase of St. Joseph's share of the right-of-way for the projects.

INTERSTATE REACHES QUARTER-CENTURY

A 25-year anniversary had double meaning for the Department in 1981. While many employees marked a quarter-of-a-century in service rendered, so did the nation's Interstate system.



Officially known as the National System of Interstate and Defense Highways, the Interstate came to be on June 29, 1956 when President Dwight Eisenhower signed the Federal Aid Highway Act of 1956, providing funding for the Interstate.

A little over a month later, Missouri became the first state in the nation to let contracts for work on the Interstate system. A few weeks passed and Missouri was the first state to begin Interstate system construction. Such a quick start was due to Department officials who foresaw federal legislation authorizing an Interstate program. They saw to it that preliminary work for Missouri's first three contracts were taken care of and ready when funding did become available.

Three contracts were let as a result. The first became I-44 in Laclede County. The other two became I-70—one in the City of St. Louis and the other in St. Charles

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Profiles

County. It was the St. Charles County project that actual construction first began.

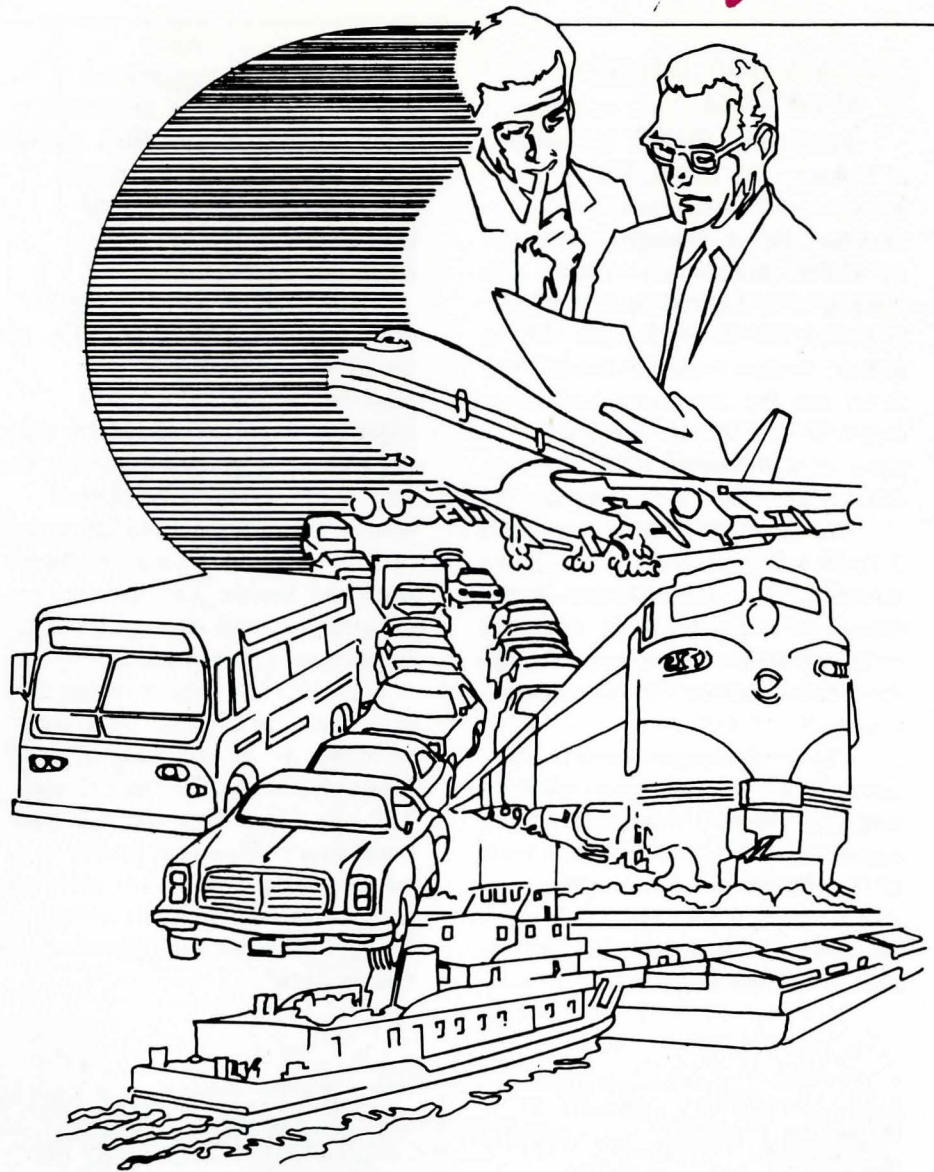
Now 25 years later there are 1,153 miles of Interstate in Missouri. Of this, 1,114 are up to or near Interstate standards and in operation. Twenty-five miles are under contract and expected to be up to full Interstate standards and in operation by December 31, 1982. There are 14 miles of approved location.

Nationwide, however, the Interstate system will comprise only a little more than one percent of the nation's roads and streets when finished. But it will carry more than 20 percent of the nation's total motor vehicle travel. Estimates indicate that the completed Interstate system will save 8,000 lives a year now being lost in traffic accidents, so much safer will be the Interstate than the roads they are replacing.

So now the 25 years behind it, how many more years will pass before the Interstate is finished? One federal estimate says the remaining 2,439 miles (5.7 percent) will be finished by 1990 at a cost of \$31.5 billion. To date, 40,061 miles of Interstate are completed.

However, the serious money crunch highways are facing all over the nation can potentially sway this estimate. Missouri predictions are especially difficult to make at this time due to financial uncertainty.

Hopefully, money woes will be solved and the Interstate system can mark many more anniversaries as the nation's most extensive, best-designed and safest highway network.



WHITTON REMEMBERED

1981 will be remembered for more than the financial crisis the Department finds itself in. It marked the passing of one of the most respected highway builders in the Department's history--Rex M. Whitton. His death, at age 82, ended a roadbuilding career which not only touched the lives of all Missourians, but all Americans as well.

Mr. Whitton, a professional engineer who was the Department Chief Engineer from 1951 to 1960, also served as the Federal Highway Administrator from 1961 to 1966. He was appointed to this position by President John F. Kennedy and also served in this position under President Lyndon B. Johnson.

During his years as Federal Highway Administrator he not only directed the operation of the Bureau of Public Roads, but was also a delegate to many international conferences concerning highways and personally visited many areas of the world for consultation on unique highway problems. Mr. Whitton was an early and strong advocate of the consideration of total sociological and environmental impact in highway planning and design. A major advance in national highway planning under his guidance was the development of the multi-disciplinary team as a successful working unit.

When he retired from this national post in 1966, he closed a 46-year chapter of service to the highway-using public. At this time Mr. Whitton became associated for several years with the consulting engineering firm of Howard, Needles, Tammen and Bergendoff.

Mr. Whitton, who is survived by his wife, his son and three grandchildren, began an era of dedication to America's highways in 1920. At that time he graduated from the University of

Missouri-Columbia with a bachelor of science in civil engineering and began work for the Department as a member of a survey party in the original District 3, which was headquartered in Sedalia. During that time good roads were "far and few between."



During his 40-year career with the Department, Mr. Whitton was involved in all phases of highway administration, economics, location, construction, operation and maintenance. He first came to the Main Office in Jefferson City in 1927 as engineer of special assignments and was named engineer of maintenance in 1936. During his tenure as the chief engineer, the Interstate highway program was started in Missouri and the state assumed responsibility for an additional 12,000 miles of county highways. The Rex M. Whitton Expressway in Jefferson City was named after him.

Mr. Whitton's fine reputation was cultivated from a life and career marked with many honors and awards--such national honors included the George S. Bartlett Award (in 1958) for outstanding contribution to highway progress, the Thomas H. MacDonald Award (in 1960) for outstanding service in highway engineering and the Roy W. Crum Award (in 1961) for distinguished service to highway research.

He has also served as president of the American Association of State Highway Officials (now the American Association of State Highway and Transportation Officials). In 1956 during his term as the association president Congress authorized the Interstate system. The first Interstate contract in the nation was then let in Missouri that same year--an achievement the Jackson-county native always took a great deal of pride in.

The former chief engineer also served as chairman of the executive committee of the Highway Research Board. He was also the recipient of an honorary Doctor of Science degree from the University of Missouri. He was a member of numerous organizations, some of which were the American Society of Civil Engineers, the Missouri Society of Professional Engineers, the American Road Builders' Association

(continued)

and the Highway Research Board. He was a York-Rite Mason and Shriner and an avid supporter of the Boy Scouts of America.

He was gracious and he was considerate, Chief Engineer Robert N. Hunter recalls, "He was an outstanding administrator. He was dedicated to the task of building and maintaining the best highway system possible for the people of the state.

"Throughout his career," Hunter adds, "he continued to be a student of highway engineering and set demanding, yet achievable goals for accomplishing his objectives, and he challenged people throughout the Department to dedicate themselves to doing their individual assignments more effectively and efficiently.

"Those of us who had the privilege of working with Rex Whitton enjoyed being a part of that achievement. He had many remarkable abilities. His honesty and integrity were unquestionable, and he maintained the respect of all those he served.

"But most of all," Hunter concludes, "he exemplified a Christian gentleman--a compliment he more than deserves."

Thus has ended a long and distinguished career for Rex Whitton marked by a lifetime of accomplishments. His national reputation as a pioneer of modern highway construction not only brings honor to his memory, but also to a profession he dearly loved. His philosophy will indeed live on and so will the spirit of the great road builder.

IN MEMORIAM... IRENE WOLLENBURG

The Department was only one day into a new year before the death of a well-respected and dedicated employee marred it. Commission Secretary Irene Wollenberg's unexpected death on January 1, 1981, ended her distinguished 44-year, 10-month tenure and saddened all those who had the pleasure to work with her.

Mrs. Wollenberg began her service to the Department on March 1, 1936, as a stenographer in the Planning Division at the Jefferson City Headquarters Office. Due to hard work, loyalty and professionalism, Mrs. Wollenberg advanced to the position of Secretary to the Commission. On February 1, 1957, Chief Engineer Rex M. Whitton witnessed the beginning of a new era when Mrs. Wollenberg assumed her duties as Secretary to the Commission--a position she held for 24 years.



"She was not only a capable lady, but a Christian lady," Chief Engineer Robert N. Hunter says. "She handled a very responsible assignment as few people would be able to do...She inspired a lot of people in the Department with her attitude and conduct...She's just one of those people that are most difficult to replace."

"Miss Irene," as Commission Chairman Jay B. Dillingham calls her, "had an old-fashioned conscientious dedication to her job. She always acted with concern for other people's feelings and interests."

**MAYBERRY RETIRES;
BUSHKO SUCCEEDS
AS ASSISTANT
FOR TRANSPORTATION**

Employees in the Transportation Section at the Jefferson City Headquarters Office saw one familiar face retire from the Department and another one step in during 1981.



T.H. Mayberry retired as Assistant for Transportation in the fall of 1981 and was succeeded by Joseph G. Bushko. Bushko will be working with the four directors of the transportation section--rails, waterways, aviation and transit.

At the time of his promotion, Bushko, 53, was the assistant division engineer--planning, research and traffic at the Headquarters Office. He began his career with the Department in 1955 after graduation from the Missouri School of Mines (University of Missouri--Rolla), where he received a bachelor of science in civil engineering. While in school, Bushko also worked for the Department in a variety of positions during the summer months.

In addition, he has served the Department as an engineer inspector I, II and III, a resident engineer I, a senior engineer II, a surveys and plans engineer and an urban engineer. During his career he has worked in District 6 in Kirkwood and District 5 in Jefferson City.

Bushko, a professional engineer, was born in Taylor, Pennsylvania, and graduated from Roosevelt High School in St. Louis. He served from 1951 to 1953 in the U.S. Army. Bushko is married to the former Rosemary Vogel (Oran) and they have four children, Cary, Laura, Mary and Stephen.

**MURI SUCCEEDS LAHMEYER
AS DISTRICT 5 ENGINEER**

Spring ushered in more than flowers for District 5 in 1981--a new District Engineer. Wayne Muri, previously utilities engineer in the Surveys and Plans Division at the Headquarters Office, succeeded the retiring R.H. Lahmeyer on April 1, 1981.

Muri began his career with the Department in 1960 after graduation from the University of Missouri--Columbia where he received a bachelor of science in civil engineering. While in school Muri worked for the Department in a variety of positions during the summer.

In addition, he has also served the Department as a designer, a senior engineer, a signal and lighting engineer, a sign and marking engineer, a traffic studies and corrections engineer, a District maintenance and traffic engineer and a field liaison engineer. During his career he has worked in District offices in Jefferson City and St. Louis.

Muri, a Professional Engineer, was born in Jamestown and graduated from Jamestown High School. He is married to the former Bonnie Cofer and has one son, Gail.



DISTRICT 9 WELCOMES NEW DISTRICT ENGINEER

District 5 wasn't the only District to sport a new District Engineer in 1981. Frank L. Carroll, former engineer of design in the Surveys and Plans Division at the Headquarters Office in Jefferson City took over District 9 in July. He succeeded G.G. McKinney, who retired from the Department.



Carroll began his career with the Department in 1955 after graduation from the University of Missouri-Rolla where he received a bachelor of science in civil engineering. While in school Carroll worked for the Department during the summer months. In 1975 he also received a master of science in engineering management from UMR.

In addition he has served the Department as an instrumentman, designer, engineer inspector, District chief designer, District surveys and plans engineer, supplementary highway engineer, field liaison engineer-location and design and urban planning engineer. During his career he has worked in District offices in Sikeston and Joplin.

Carroll, a Professional Engineer and Land Surveyor, was born in Poplar Bluff and graduated from Poplar Bluff High School in 1950. He served in the U.S. Army's 23rd Armored Engineer Battalion in Germany during 1955-1957. He married the former Jane Hamilton in 1954 and they have two children, Frank Allen--a University of Missouri-Columbia sophomore and Janet Louise--a high school sophomore.

NEW YEAR USHERS IN NEW COMMISSION SECRETARY

Following in Irene Wollenberg's footsteps is certainly a difficult assignment, but such confidence was placed in Mari Ann Winters after Mrs. Wollenberg's death January 1. Mrs. Winters, previously the executive secretary to the chief engineer, has

been employed by the Department since February 9, 1970, in a variety of secretarial positions.

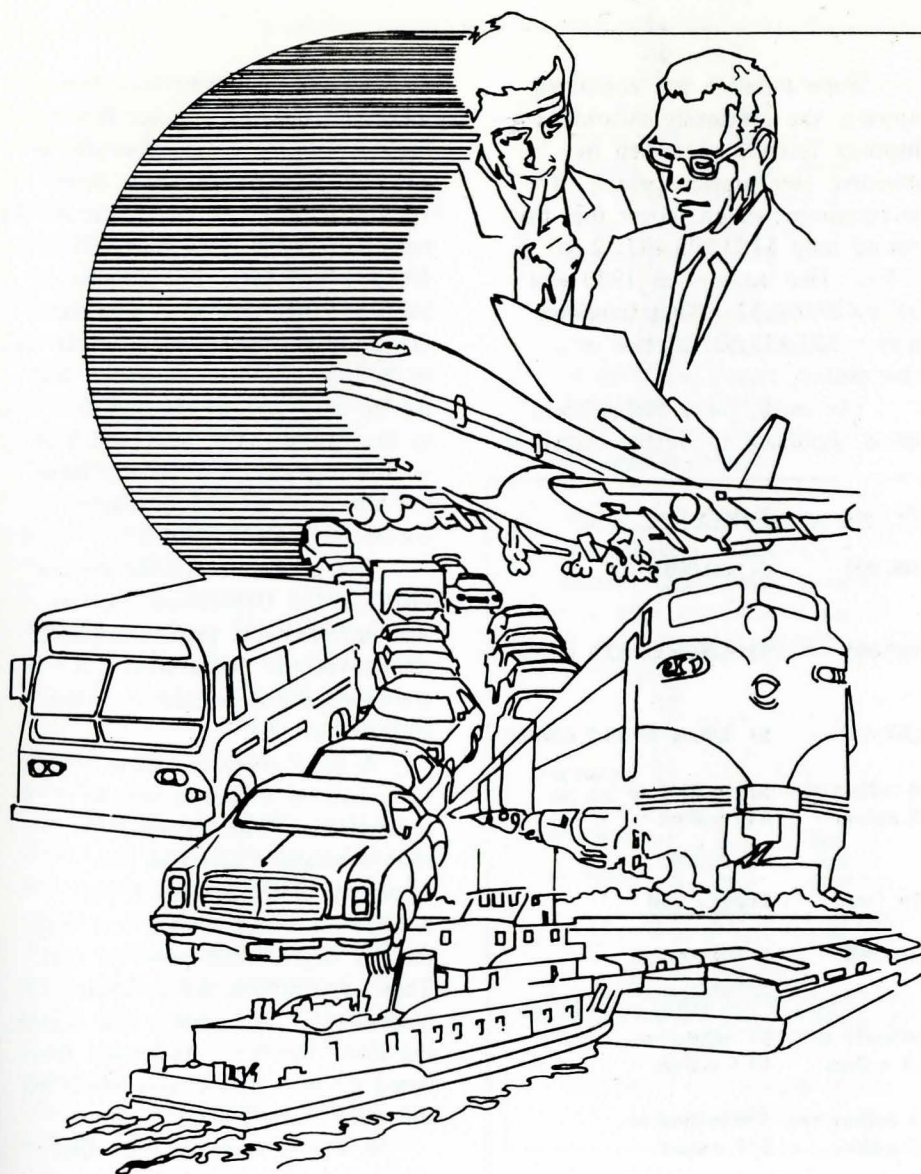
She was first assigned to the Maintenance and Traffic Division at the Jefferson City Headquarters Office as a senior stenographer. Prior to her appointment as executive secretary in the General Office, she also served as a secretary in the General Office and as a secretary, a senior stenographer and a Personnel service agent in the Personnel Division.

Mrs. Winters is a 1965 graduate of Clopton-Clarksville High School near Clarksville. She also attended the Gem City Secretarial College. She is married to Everett Winters and they have two children, Eddie and Amy.

In her position as Commission secretary, Mrs. Winters will be responsible for maintaining records of all Commission proceedings and will be in charge of all records and documents filed with the Commission. In addition she will serve as secretary and treasurer of the Highway Employees' and Highway Patrol Retirement System Board of Trustees.



Operations



DEPARTMENT WORKS TO PRESERVE PAST PROGRESS WHILE FACING QUESTIONABLE FUNDING FUTURE

Times are hard. Never has an expression more aptly applied to the Highway and Transportation Department. Times are hard, financially speaking. And times are hard when highway deterioration is concerned. During 1981 that two-fold problem doubled in intensity as each aspect affected the other.

Missouri is proud to have the seventh largest highway system in the nation. And it has been equally proud to maintain this ranking with the nation's third lowest fuel tax—seven cents-per-gallon. But things have changed in the past few years, and therein lies the rub, so to speak. Department officials have been watching revenue decline to the point where a crisis situation was imminent in 1981. With 32,000 miles of highway to maintain, the motor fuel tax comprising the biggest part of highway revenue wasn't doing the trick anymore. And other revenue sources couldn't make up for it either since they, too, were on a downhill slide.

So why did this seem to come to a head in 1981? It didn't really. Department officials have been seeing it coming for years and began efforts long ago to increase revenue and offset highway deterioration. But by 1981, the effects of deferred maintenance and construction "came home to roost" as an increase of potholes, traffic congestion, surface cracks and additional bridge limit postings became more evident.

Although additional revenue obtained through the transfer of some motor vehicle sales tax in 1979 provided some hope to prolong this, it was short-lived. Alarmed officials watched this additional

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revenue fall short as no relief was in sight from inflation.

Consider that highway construction and maintenance costs have risen 160 percent since 1970. Compare that to a 71 percent rise in highway income—which includes a two cent gas tax increase in 1972. How inflation has affected roadbuilding is best seen in the following construction cost comparisons:

While inflation has continued upward, the previously mentioned highway revenue continued its nosedive over previous years. The seven-cent-per-gallon motor fuel tax netted only \$153,995,497.32 in 1981. That amount in 1980 was \$176,429,098.52. That translates into a \$22,433,601.20 loss in revenue.

The small, more fuel-efficient autos continued to be the culprit as

motorists could travel more Missouri miles and pay less in user fees for highway upkeep. For example, in 1977 an average car owner drove 10,000 miles a year and obtained 14 miles per gallon. He paid \$51 in Missouri fuel tax. But because of increased fuel efficiency, that same driver going 10,000 miles a year will be getting 19 miles per gallon and paying only \$37 in Missouri fuel tax in the future. The wear and tear on the highways will be the same, but the motorist will be paying considerably less to fix it.

The portion of motor vehicle sales tax the Department receives also provided less than anticipated revenue to the Department. A continued slump in new car sales is at fault for this.

A third revenue decline could be observed in motor vehicle registrations. The buying shift toward smaller cars had this secondary effect as their lower horsepower ratings netted less than that of larger, more powerful cars. These registrations are computed on horsepower. The smaller the engine, the lesser the fee. And these fees based on horsepower have remained the same since 1933.

It was obvious in 1981 that more tightening up had to be done over the previous years' cutbacks. Officials took a long look at what they had to do on the system and at the money available to do that work. Predictions indicated by 1983, the Department would not be able to maintain any Federal funding. Then they made their priorities and trimmed where they could. In some cases it was lean meat that was cut.

Cutbacks included trimming such areas as highway resurfacing, bridge painting, right-of-way mowing, snow removal and highway edgeline striping to the bare necessities. Sign reclamation and energy consumption

<u>Highway Type (one-mile length)</u>	<u>1970 Cost</u>	<u>Today's Cost</u>
Secondary or farm-to-market road example: Route B or Route A	\$ 500,000	\$1,000,000
Two-lane primary highway example: Route 63, 61 or 54	\$ 900,000	\$2 million to \$2.5 million
Four-lane Interstate highway in rural area	\$1,300,000	\$3 million to \$3.5 million
Eight-lane Interstate highway in urban area	\$14 million to \$15 million	\$36 million to \$40 million
<u>Bridge Type</u>	<u>1970 Cost</u>	<u>Today's Cost</u>
Grade separation bridge built over dual-lane freeway	\$ 300,000	\$ 700,000
Two-lane bridge over mid-size river like the Gasconade or the Osage	\$ 900,000 to \$1.5 million	\$2 million to \$3.5 million
Multi-lane bridge over the Mississippi or Missouri Rivers	\$13 million to \$15 million	\$30 million to \$35 million

reductions were stressed as they continued to provide savings. And the work force was decreased in 1981 by more than 340 people to total a decrease of more than 1,000 people in the past 10 years.

Construction almost became a foreign word in 1981. And many more maintenance programs were deferred to allow funds to flow to more badly needed projects and the repair of dangerously-deficient highway sections. In addition, approximately \$480 million worth of projects were removed from the current Right-of-Way and Construction Program. The Program outlines necessary work to complete over the next seven or eight years. Monthly construction bid lettings were decreased both in number of projects and dollar amounts of those projects.

The sad part is the positive effects of these deferred construction and maintenance cutbacks won't be obtained without negative effects. When a small highway need with a small price tag is unattended, it grows into a big need with a big price tag - not to mention the possibility of it becoming a life-threatening danger. Simply, more will be paid in the long run than now and there's more to lose than just money.

The potential for complete highway deterioration is out there. A quick look at statewide highway status reveals that even now. Current assessment of the system shows:

*A conservative nationwide estimate is that a bridge has a useful life of approximately 50 years. With 7,250 span-type bridges, the Department should be replacing an average of 145 bridges per year. Currently, it is replacing 30 or less structures each year.

*Missouri is one of the top ten states in total percentage of deficient bridges. And only three out of 50 states have a larger percentage than does Missouri.

*Approximately 300 intersections need some type of revisions, signals, surface treatments or other improvements to correct accident problems.

*Some 75 intersections inadequately handle their current large traffic volume and need revisions or signals to correct these capacity problems.



*During the past two years the Department has been able to correct 71 intersection deficiencies. If the Department continues to improve intersections at this rate, it will take 10 years to correct current intersection deficiencies.

*Of the 1,100 miles of completed Interstate highways, approximately 500 miles will need resurfacing over the next 10 years. Presently the Department is only resurfacing about 40 miles a year.

*Approximately 4,300 miles of 6,800 primary system miles will need resurfacing in the next 10 years. Since the Department is resurfacing only about 100 miles a year, it will take the Department 43 years to accomplish what needs to be done in 10 years.

*During the next 10 years, 18,000 miles of the 24,300 supplementary highway system miles will need resurfacing. The Department is presently doing a very minimal amount of resurfacing on this system. If funds do not become available soon, letting a part of this system revert to lesser surfaces such as gravel will have to be considered.

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*Approximately 180 miles of Interstate highways need additional lanes to adequately accommodate traffic. The Department is currently doing very little work of this nature.

*About 415 miles of primary highways need additional lanes to adequately handle present-day traffic. The Department is presently satisfying this need at the rate of about 10 miles a year.

*The supplementary system has about 290 highway miles in need of additional lanes to handle present-day traffic volumes. This need is presently being satisfied at a rate of about five miles a year.

The Department foresees that the consequences of not attending properly to this work will be very high. Right now these problems are putting the Department in a bind. Very shortly, though, those problems will also put the motorists in a bind if something isn't done. He'll pay more in terms of damage done to his car from worn-out pavement, additional time and aggravation from road delays and detours. He will also take risks with himself and family when they drive roads that aren't as safe as they used to be.

At today's prices, bad roads will cost the average motorist \$204 a year in wasted fuel, damage to brakes, steering and suspension systems, as well as time-consuming detours.

All-in-all, 1981 didn't paint a pretty picture of smooth, efficient travel on Missouri highways. Having done all they could within the Department, officials turned to Missourians who also could see the problems and wanted to solve them with additional revenue.

Efforts were made to inform the public, the legislature and the various user groups of this revenue need. They responded by rallying support for the cause and continuing to spread the bleak highway story. Action came when the Missouri Legislature raised a measure that

would have produced about \$95 million for the Department, cities and counties. Unfortunately, the bill died in the closing minutes of the session.

Efforts did not end with that, though. The future is more important than it ever was with more at stake than ever before. The Department will continue its move to inform Missourians of highway needs and what not meeting those needs will mean to them. And hopefully legislation will be passed in the next session, giving voters a chance to save what might otherwise become a "sinking ship."

FINAL BID LETTING LOWEST IN 10 YEARS

The Department's final highway bid letting estimate for the year fell under \$20 million--a low only reached one other time in the past 10 years. And in only two other lettings have fewer projects been on the schedule for a final letting.

Twenty-six road projects throughout the state were scheduled at a cost of approximately \$19 million. The only other such low was the final letting of 1979 when bids totaling eight and one-half million dollars were approved. The ten-year average on approved bids has been \$25 million.

As far as the number of projects goes, only 22 were scheduled in the final letting of 1980 and 15 in 1979. The ten-year average of scheduled projects on the final letting has been 67.

What marks this as unusual and a sign of the financially troubled times is the fact that the year-end letting is generally a large one because work is approved that has been scheduled for the spring maintenance and construction season--the Department's busiest time of the year.

A BRIDGE IS A BRIDGE IS A BRIDGE???

A bridge is a bridge is a bridge...or is it? There are approximately 24,500 bridges in Missouri, and each one is different in design, type, material, length and width.

Some also cost considerably more than others, but they all have one thing in common: they provide the traveling public with an easy, safe way to get from one side of a river, a railroad or a highway to the other.

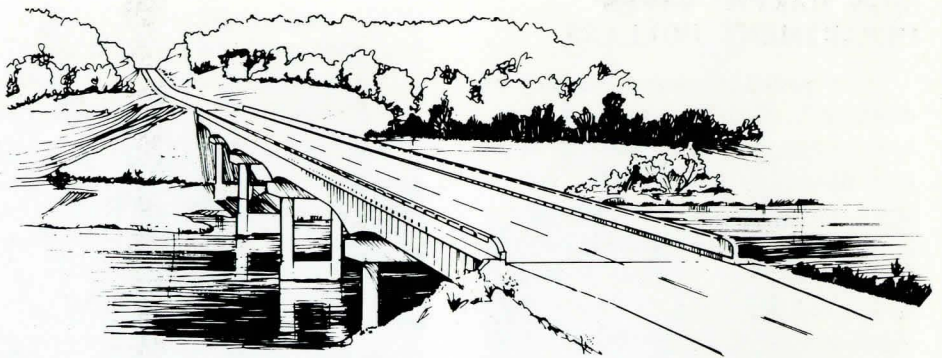
Of all the components of a highway system, bridges are probably one of the grandest and most spectacular. For sheer majesty, they are unparalleled. Yet for all their majesty, they easily become the focus of much attention when they become old and worn out and need repairs.

Of the 24,500 bridge total, 10,000 are on the state highway system, while the remaining 14,500 are on city streets and county roads. That's quite a few bridges. There's quite a bit of money tied up in them, and it takes quite a bit of money to fix them.

The Department uses two terms to describe bridges on the state highway system which need work--structurally deficient and functionally obsolete.

About 400 bridges fall into the structurally deficient category. These are the bridges which need major work on the deck or the roadway, the superstructure (the parts you can see from the road) and substructure (the parts you can't see from the road).

About 3,000 bridges fall into the functionally obsolete category. This means even though the bridge may be in reasonably good structural condition, it is no longer functional. This could happen because it was not designated to handle the



increased traffic flow--the wider, heavier vehicles it carried--or because it has become outmoded through rapid population or rapid industrial growth.

Just because a bridge is classified as structurally deficient or functionally obsolete doesn't mean it is unsafe to travel on or is in danger of immediate collapse. The Department has spent a great deal of money posting bridges with weight restriction signs and installing traffic signals to ease congestion over these narrow bridges not capable of withstanding heavy weights.

The Department has 232 bridges which have either posted load limits or operational controls. An additional 1,380 bridges on the supplementary or farm-to-market highway system are limited by law to the load limits they can carry.

With passage of the "big truck bill", the Department is reviewing the load limits on its bridges and placing additional load limit signs and operational signals accordingly.

How do you know, though, if a bridge is really safe? The Department inspects all its bridges at least once a year and if there are serious problems, the bridge would be closed and traffic rerouted. The Department has tried over the years

to schedule repairs and replacements of those bridges which need major work, but bridge building and repair is expensive. The prices, too, keep climbing.

A typical overpass on a bridge over a dual-lane highway costs about \$700,000 today. In 1967 it cost only about \$200,000. A dual-lane bridge over a mid-size river such as the Gasconade or the Osage would cost from \$2 million to \$3.5 million. In 1967 the price range was \$600,000 to \$1 million.

A big undertaking such as a multi-lane bridge over the Mississippi or Missouri Rivers costs between \$30 million and \$35 million.

So the work we would like to do and work we can do, is severely limited by the money we have to work with.

A bridge is a bridge is a bridge, but yet each one is different, and each one is expensive. And if additional funding doesn't become a reality, we will surely have to cross a long bridge over troubled waters.

SIGN MAKING SAVES DEPARTMENT DOLLARS

"A posted command, warning or direction." Such is a sign. A sign may command a driver to stop at a stop sign or warn a driver to slow down when crossing an intersection or direct a driver toward his destination. Any way you look at it our highways would be utter chaos and extremely dangerous without our signs.

All the signs seen across the state got their start in the sign shop at the Headquarters Garage in Jefferson City. There 16 employees are responsible for the production of all signs. They see that the correct information is put on the signs. They see that the signs are produced properly. They ready them for delivery to the appropriate locations. Once an order comes to the sign shop, it moves through an orderly production process from start to finish.

In 1981 the sign shop shipped out 71,290 signs and the cost for these signs was \$810,288.98. Approximately 79 percent of these signs are reclaimed signs, which result in a great savings to the Department.

Some of these signs are as much as 30 feet long. Some are made of steel and some are made of plywood, depending on the area they will be used in and the purpose they will serve. About 90 percent of the signs made at the sign shop are covered with reflective sheeting. In 1981 the shop used 304,907 square feet of reflective sheeting at a cost of \$272,797.55.

"Lately," says Arnold Rehagen, sign shop foreman, "we have been busy with the population signs that have to be changed every 10 years following the census. There are about 1000 towns' populations signs that have to be changed and we



often have to make 10 or 15 new signs or decals per town. We are also in the process of making approximately 700 large plywood weight limit signs for bridges throughout the state."

This year past the sign shop crew assisted the Public Information Division in preparing some informational signs for the Highway Gardens at the Missouri State Fair in Sedalia. They weren't quite the usual command, warning or directional signs. Instead they

further alerted the public to the financial situation of Missouri's highway system and called to their attention various facts concerning the roads.

However, whatever the sign may say, the efficiency of the sign shop and professionalism behind the process is never lost among the buzz or machinery and the smell of fresh paint.

MAINTENANCE VICTIM OF BUDGET CUTS

The Department's financial problems were reflected in the 1981 maintenance budget as drastic cuts were made in activities budgeted even though the dollar amount of those activities was \$2 million higher than 1980.

The higher amount was due to rising costs of essential maintenance materials such as asphalt and aggregate.

"Since our revenues have been declining in recent years," Chief Engineer Robert Hunter says, "we've had to significantly reduce our maintenance activities. Our goal has been to reduce those activities which are least critical to maintaining a good driving surface and to preserving the structural soundness of our highways and bridges."

Areas where further reductions were made include surface maintenance, mowing and snow and ice removal.

Surface maintenance consumes more than 50 percent of the maintenance budget, Hunter says, and adds that many activities in this area were either reduced or eliminated. The surface maintenance done by Department crews used to cover more than 6,000 miles annually. That has been cut over 60 percent in the last five years to 2,400 miles.

Use of materials such as aggregate and asphalt have been cutback 28 percent. A contract program to seal road surfaces to prevent water seepage was again eliminated. A program allowing annual contract resurfacing of 900 miles of supplementary and other similar roads was again discontinued.

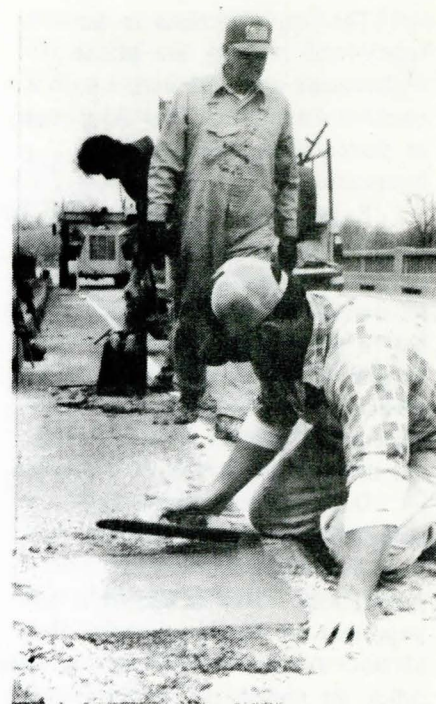
During the last five years the Department has reduced the frequency of right-of-way mowing. In the 1981 budget, urban areas were mowed three times a year and some rural areas were mowed only once a year, except for shoulders and those areas where tall grass caused vision problems.

Some right-of-way would only be mowed every two years, Hunter says. He added that further mowing reductions also reduced the number of tractor mowers, making a total cutback of 20 percent in the last five years.

Hunter notes that 18 percent of the total maintenance budget is spent on ice and snow control. If these activities were not done, the cost to the public in terms of delays, added vehicle wear, more fuel consumption and increased accidents would be tremendous.

Another area that suffered from cuts was the painting of steel parts on more than 7,000 of the 10,000 bridges in the state highway system. Bridges should be painted every 17 to 20 years, but because the Department had to continue its elimination of the contract bridge painting program and reduce touch-up jobs, this will not happen.

"Our reduced maintenance program is going to catch up with us," Hunter says. "We'll just have to do the best we can with what we have available."



FEDERAL FUNDING-- FINANCIAL AID WITH STRINGS ATTACHED

It is a common misconception that federal money can be spent for almost anything under the sun. However, in the case of federal highway funding, just the reverse is true.

The Department receives a large amount of federal funding for highway purposes, and this money comes to the Department in one of 39 different and specific categories. Presently, the Department makes active use of 21 of these categories.

These funds can be divided into two main groups--those which include highway construction and those which can generally be classified as safety projects.

The major sections in the construction category are the Interstate highway system, resurfacing of the Interstate system, primary highway construction and secondary highway construction.

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The major sections in the safety-fund category are bridge replacement and elimination of roadside hazards and obstacles such as sharp curves and dangerous intersections.

Federal highway money used by the Department does not come in the form of grants, but is on a reimbursement basis. The Department has to get an agreement with the Federal Highway Administration to participate in the funding of projects, then must come up with the money to pay for the projects.

Once the state funds are obligated, the Department is reimbursed by the federal government. This is why it is so important to have a continual flow of state funds available. If the state funds are not there, neither is the federal money.

An aspect of federal highway money not commonly known is that its uses are very strictly defined by the Federal Highway Administration.

Money for safety projects, such as replacing dangerous rigid signposts with newer and safer breakaway signs, can only be spent for this type of work. It cannot be reallocated for a resurfacing project or building a new bridge.

Often federal money is allocated for a specific project such as a certain bridge or a certain construction project. If the money is not used for that project, it cannot be used.

For years the Department has advocated simpler breakdown of federal funds which would allow the Department, as well as its counterparts in other states, to put highway money to work on fixing the highways rather than on projects such as the billboard control program and the junkyard beautification program.

Although these programs have merit, state highway officials note, the money to pay for them should not come from highway funds.

Just as the Department has been hit with declining revenues, so has the federal highway trust fund. It is now more important than ever to ensure that highway funds are used for the maintenance and improvement of the state highway systems before they deteriorate beyond repair.

Federal funds do provide a tremendous boost to Missouri's highway program. However, the supply of federal funds is not limitless, and there are many rules, regulations and restrictions which go along with their use.

And unless the state has adequate funding to take advantage of the federal funds available to it, the highway and transportation programs Missourians have so long taken for granted will no longer exist.

USER TAXES FUND HIGHWAY SYSTEM

The Missouri Legislature considered several proposals in 1981 to provide additional funds for the state's highway programs, which have been suffering because of rising costs and falling incomes. A common thread in almost all of those methods, though, was that they would generate the needed funds through user taxes, one of the fairest forms of governmental fund raising.

While most state governmental agencies operate from general revenue funds which come from taxes like sales tax and income tax, the Department's funds come almost entirely from funds collected from those who use the highway system. And these funds come mostly from the 7-cent-per-gallon motor fuel tax, the motor vehicle license fees and a portion of the motor vehicle sales tax. The only Department funds not user related are those which go to operate the transportation functions of rail, waterways, aviation and transit.

Nearly half of Missouri's state highway money comes from the motor fuel tax, while the other half comes from the licensing of motor vehicles, drivers license fees, bus and truck registrations and the state's share of half of the motor vehicle sales tax allocated for highway and transportation purposes. It should be noted that these user funds also provide road and bridge money for Missouri's cities and counties, which share in the motor fuel tax and the motor vehicle sales tax revenues.

Yet state user funds do not make up the entire Department budget. The federal government provides money which is available on a matching basis. However, before the state can use this money, it must first pay for the projects out

of state funds before being reimbursed by the Federal Highway Administration. One of the problems now is the state is reaching the point where it will not have enough state funds to match all available federal money. If the revenue picture remains as bleak as it is now, the Department will not be able to match any federal funds by 1983.

A limiting factor in the use of federal funds on highway projects is that the funds are allocated in one of 39 separate categories, of which Missouri uses 21. These federal funds can only be spent for designated activities such as safety signing and guardrail improvements. In some instances, the federal funds can only be used on specific projects.

The bulk of the measures the legislature reviewed involved some modification of the present revenue structure. This present structure is not providing nearly the needed revenue because people are buying less fuel and buying cars which get more miles per gallon. Since motor vehicle license fees are based on horsepower ratings, the Department is beginning to lose funds in this area because of the switch to cars with lower horsepower engines.

A steady flow of state highway funds is essential if Missouri's highway program is to continue at the level its citizens have come to expect. Hopefully, legislators and citizens will choose to maintain this level.

TRAVEL INCREASES OVER 1981

Not everything declined in 1981. In fact, travel on Missouri's highways made up for 1980's decline by increasing 2.2 percent (555 million miles) since then. Travel in 1981 was 24.8 billion miles while the 1980 figure was 24.3 billion.

Specifically, travel increased 280 million miles on the Interstate system, 218 million miles on the supplementary system and 57 million miles on the primary system.

August took honors as the highest travel month when motorists drove 2.3 billion Missouri miles. January came in as the lowest traveled month with 1.8 billion miles. Each month registered an increase with the exception of October.

On a dismal note, the state's share of the motor fuel tax dropped in 1981. Normally motor fuel tax revenue goes hand-in-hand with a rise or decline in travel. If one increases or decreases, so does the other. However, since people have been buying more fuel-efficient cars, fuel sales and revenues have been dropping drastically even though motorists are driving more. In this case, revenue was \$4 million lower than 1980.

Chief Engineer Robert N. Hunter says the travel increase can probably be attributed to stable and declining fuel prices and successful conservation efforts by Missouri drivers.

What alarms the Department, however, is the travel increase coupled with revenue decline. "Such increases will necessitate more highway work," Hunter says. "And the revenue declines mean less money to do it with."

"If funding stays the same, I can almost guarantee that in the

next few years, travel will decrease simply because the conditions of the highways will be such that people won't want to drive very much."

GREAT RIVER ROAD CAPITALIZES ON SCENIC, RECREATIONAL AND HISTORIC RIVER AREAS

There's a very special road in Missouri that is like any road in the state, yet unlike any other road in the state. Sound confusing? Like other highways, this road is constructed of the same quality materials and designed with the same high standards the Department sets. Unlike them, however, this road has been officially deemed the "Great River Road."

What is a "Great River Road?" Specifically, the Road is one continuously designated route marked over existing highways running along the Mississippi River in 10 states. The Road weaves itself in and out of the various states along route



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locations chosen by each state to capitalize on the most scenic, recreational and historical areas along the river.

Overall, the Road is part of a Mississippi River Parkway system development established to preserve and enhance these scenic, recreational and historic attributes of the river. Since the river played a significant role in the United States' development, these attributes are even more important to preserve for future generations. The federal government recognizes its importance too, as it partially funds the project.

Missouri can be especially proud of its part in the Great River Road program. for it initiated several "firsts." Its biggest contribution to the program was the Great River Road idea itself. In 1936 Missouri's Governor Stark authorized a recreational study of the state. From this, a state parkway along the Mississippi River was proposed and included extensions into other Mississippi River states. Those states of Arkansas, Illinois, Iowa, Kentucky, Louisiana, Minnesota, Mississippi, Tennessee and Wisconsin readily agreed. The Canadian provinces of Ontario and Manitoba also wanted in

on the act. So to coordinate the whole undertaking, a Mississippi River Parkway Commission was established.

World War II promptly brought planning to a halt no sooner than it had begun, but efforts were quickly revived afterwards. Feasibility studies began in the early 1950s. They suggested the scenic route be developed by the states and administered by the various highway departments by improving existing highways to parkway-like standards. Congress authorized development in 1954. From that point on, steady progress was made on the Parkway.

This brings us to the second "first" to Missouri's credit. Missouri began preparing for the Great River Road many years before the concept

was fully developed at the national level. In the early 1950s the state used its own funds to plan and construct a 3.5-mile segment of Route 79 south of Hannibal, providing a model for the basic conceptual line of the Great River Road.

To aid the cause, individual state Parkway Commissions were also established. Again, Missouri was eager to get the ball rolling and established one of the earliest Commissions. Today that Commission advises the Governor, State Legislature and the Highway and Transportation Commission on the development and promotion of the Great River Road and Parkway progress.

Present members of this Commission include: Omer H. Avery, Chairman, Troy; Robert M. Clayton, Hannibal; William C. McIlroy, Bowling Green; Carol Shuman Rich, Canton; Fred Rigdon, Kennett; Robert Dietrich, Hillsboro; John E. Schnobelen, St. Louis; Fred C. Springer, Cape Girardeau; and Gerald E. Ohlms, St. Charles. These Commissioners are appointed by the Governor for three-year terms. In addition, three ex officio members make up the Commission. They are the Department's Chief Engineer, the Tourism Division Director and the Parks and Recreation Division Director.

While anyone who drives down the Great River Road benefits from its lovely views and historic and recreational attractions, Missouri is reaping some other kinds of benefits. Tourists are finding a trip down the Road an interesting way to vacation relatively close to home. With Hannibal, St. Louis, St. Charles and historic Ste. Genevieve easily accessible from the Great River Road, there's plenty to keep a tourist busy. And this all means big

money for the state's tourism industry and the state in terms of tax revenue and employment.

Secondly, the Program allows the improvement of existing Mississippi River highways, upgrading an important part of the Midwest's road system. This, in turn, better serves the many agricultural, industrial and dairying interests located along the river, resulting in substantial economic benefits for the area.

What about the future of Missouri's special road? Since funding the project has been a state-federal venture, the states involved have consistently provided non-federal matching funds to assure the Road's progress. Federal funds invested, in turn, have been more than \$300 million since 1976. However, as of March 10, 1981, the Federal Highway Administration deferred any further obligations of Great River Road funds. The availability of Federal funds is uncertain in the near future.

Specifically, though the total cost for completing the Missouri portion of the Road is \$113.3 million based on a 1980 estimate. With a program as beneficial as this one, Missouri intends to continue developing the Great River Road as much as possible if and when funds become available to it--hopefully making it a showcase for the state, as well as the rest of the nation. After all, there's no other road like it in Missouri!

HIGHWAY BUILDING IS MILLION DOLLAR PROPOSITION

A million dollars! What will it buy? Precious few of us even know what a million of anything looks like, much less what a million dollars will buy.

However, it will buy, depending on your priorities, 125 new cars (at \$8,000 each), 632,911 pounds of hamburger (at \$1.58 a pound), 100,000 bags of groceries (at \$10 a bag) or one, that's right, one mile of secondary or farm-to-market highway like Route B or Route A.

And a secondary highway is generally the least expensive type of state highway in Missouri. A two-lane highway like most of Routes 63, 61 and 54 generally costs from \$2 million to \$2.5 million per mile to build, and that includes the price of the land used to build the road on. All these costs are average because each roadbuilding situation is different, depending on land costs, labor and difficulties in hauling needed materials.

Moving right along the cost ladder, a mile for four-lane Interstate highway in a rural area of mid-Missouri costs from \$3 million to \$3.5 million per mile. If you

are in a large metropolitan area, an eight-lane freeway like Interstate 44 in St. Louis costs from \$36 million to \$40 million per mile.

With astronomical costs like these, you can see why the Department is having money problems!

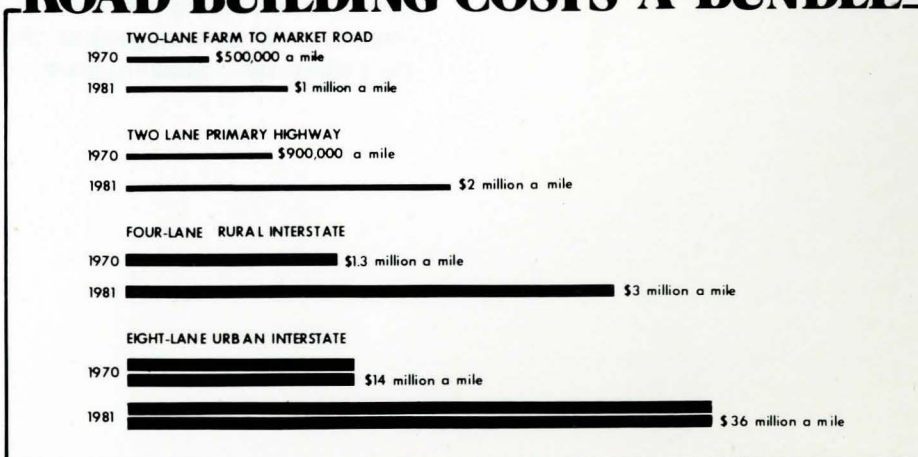
This can also be illustrated by taking a brief glance at these same construction costs in 1970, a scant 11 years ago. That secondary highway, Route A, only cost about \$500,000 a mile, while a primary highway like Route 54 only cost about \$900,000 a mile.

A typical mile of four-lane rural Interstate cost \$1.3 million in 1970. An eight-lane highway like a section of urban Interstate was only \$14 million to \$15 million a mile then.

Since 1970 Missouri's highway construction costs have risen 160 percent, yet the money the state depends on to build and maintain these same highways rose only 71 percent. And when you consider that the 71 percent increase includes a two-cent per gallon gas tax increase in 1972, the picture becomes even gloomier.

It's obvious that highway building is expensive. That's one of the reasons why there are problems today. Missouri's total state highway

ROAD BUILDING COSTS A BUNDLE



(continued)

system contains more than 32,000 miles of highway. Many of these miles need work. Many need to be totally rebuilt or resurfaced. The Interstate system is showing its age, and it needs to be repaired.

If you think the road building costs mentioned above are large, consider this. The costs of the most critical immediate work needing to be done on the highway system would be more than \$550 million a year for the next 10 years.

And the Department is not talking about building new highways. It is talking about just keeping what we have above water. It is talking about fixing bridges that need it and about doing basic resurfacing to keep the highway driveable.

As costs go up and income goes down, the work the Department can do becomes less and less. If additional revenue is not found, Missouri's highway programs will suffer. And this suffering will be passed on to motorists who will pay for the bad roads through increased fuel costs, increased car repair bills and time losses because of detour and delays.

MORE THAN MEETS THE EYE-- PROJECT EVOLVEMENT AFTER PROGRAM PLACEMENT

More meets the eye than it appears when it comes to improving highways--particularly where the Department's "Right-of-Way and Construction Program" projects are concerned. Placement on this Program, so many people feel, is an indication that project completion is near. But actually "a lot more water has to go under the bridge" before a job is placed in a contractor's hands.

For instance, the first thing that happens to a project after Program placement is the performance of a preliminary engineering study. Here engineers analyze present and future traffic loads of a given project, and base their design criteria on projected traffic estimates to accommodate traffic 20 years down the road.

At this point, public input plays a great role in the direction a project will take. The Department is always interested in what citizens have to say and gives them several opportunities to air those views from this point on. For example, if a project is classified as a major action requiring a new location, a "pre-location study meeting" will be held. This allows the public to comment and make suggestions after the preliminary engineering study.

If the project involves a relocation, Department engineers next conduct alternative location studies. Such studies reveal the best of several relocations that enable the road to meet present and anticipated traffic needs. Cost estimates are made for every alternative considered. The best alternative is then presented to the Highway and Transportation Commission for their tentative approval.

Once that approval is obtained, the issue goes back to the public in the form of a "location public hearing." The District Engineer, whose District is involved, informs citizens of the project's proposed location and the Department's reasons for its selection. Citizens, in turn, tell us what they think about it. In a nutshell, this hearing informs people of our plans and lets the public inform us of ways those plans could work better.

Deliberations from this hearing are recorded and sent to the Chief Engineer along with the District Engineer's recommendations. The Chief Engineer adds his suggestions and submits the proposed location to the Commission for their final approval. Commission approval then authorizes the next phases a project goes through--survey, design and right-of-way acquisition.

The survey is used to get both the "highs and lows" of a project area. Aerial photography taken from the Department airplane combines with ground party techniques to show alignment and topography of the improvement to be made. The survey establishes grade lines, culvert locations, construction limits and right-of-way boundaries in their final form.

Once these design details are set, it's time to see what the public thinks of them, via a "design public

hearing." Again conducted at the District level, results are recorded and reviewed by the Commission. Public comments here could very likely lead the Department to modify plans.

On this basis, the Department arrives at consensus recommendation for design details and again presents it before the Commission for their approval. With the Department acting as a middleman between the public and the Commission, the best decision for all concerned is made.

Design approval gives the Department the "green light" to proceed with right-of-way acquisition. First, right-of-way limits for the project are established permitting appraisals of property to be acquired. These appraisals are made either by Department appraisers or independent qualified appraisers in the area. The appraiser makes a land and improvement inspection in the property owners's company so he can point out valuable land features the owner feels may be overlooked. The appraiser then establishes figures that justly compensate the property owner, as well as assures a proper expenditure of public funds.

Next the Department reviews the figures to assure compliance with approved appraisal formats and establishes a just compensation figure.

A Department negotiator takes over at this point. He contacts the property owner, explains the Department's plans and what effects the right-of-way taking will have on his property. He advises the owner being relocated and offers financial help to offset moving expenses. No residential relocatee is required to vacate until decent, safe and sanitary housing is obtained.

Now the negotiator offers the

owner what the Department considers a fair price for his property. The offer is made in writing, and shows separately the amount for real estate and damages, if any, to the remaining property. If the owner accepts the offer, right-of-way acquisition is over. If the owner and Department cannot agree on a fair price, the Department must resort to condemnation proceedings.

These proceedings begin when the Circuit Judge, who has jurisdiction over the matter, appoints three Condemnation Commissioners who live in the same county as the property is located. They examine the property, establish a value for it and use that value to award the property owner. As before, the value must be satisfactory to both owner and Department. If it is not, the matter is tried in Circuit Court with a jury making the final award.

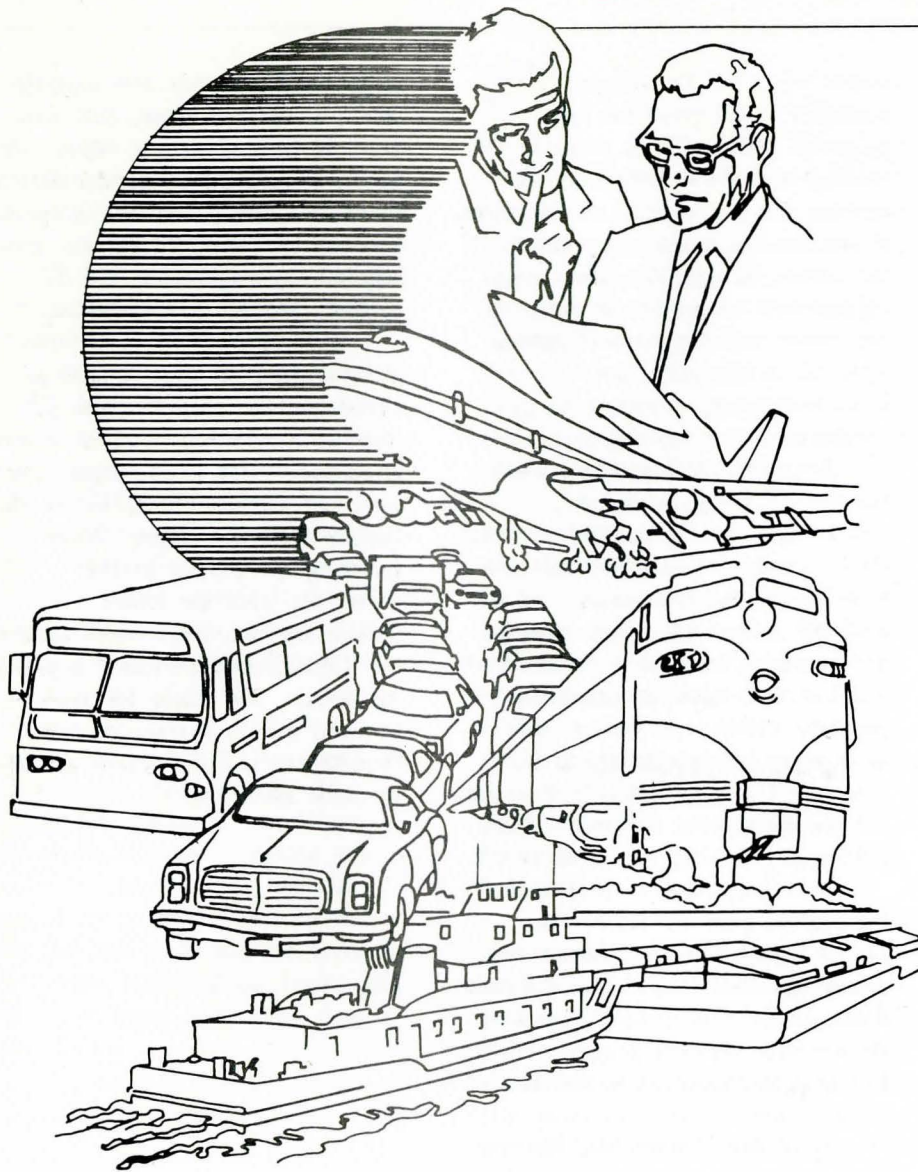
It is important to note that if the matter must be resolved in Circuit Court, the Department will receive possession of the land within a reasonable time period after the Department pays the fee established by the Commissioners to the Circuit Clerk.

Since the Department does try to compensate the owner as justly as possible, condemnation fortunately is more the exception than the rule where property acquisition is involved. During 1981 the

Department acquired 314 separate land parcels. Of these, 268 were acquired by negotiation, while only 46 were obtained by condemnation. In other words, of all the property acquired last year, 85 percent were acquired by negotiation and 15 percent involved condemnation.

With right-of-way acquisition accomplished, all that remains is advertising the project across the state to receive bids from contractors interested. This is contingent upon sufficient available funds before the improvement can begin. After awarding the project to the contractor with the lowest satisfactory bid, Department Materials and Construction personnel supervise the work. The major leg work may be over, but they make sure the Department and the citizen get what we both asked for!

Divisions



PERSONNEL

Personnel provides assistance to the Department regarding personnel management matters such as employment, affirmative action, employee development and training, employee relations, salary administration, retirement and the interpretation and uniform administration of personnel policies.

The Department is an Equal Opportunity Employer. Affirmative Action programs remain a priority and progress continues. Recruiting efforts are conducted by both Personnel and the 10 District Offices to locate qualified minorities for Department jobs.

New employee orientation and training is primarily conducted through the Department's supervisors. Personnel provides new employees with publications to familiarize them with the Department's function, rules and employee benefits.

Personnel supplements employee training by periodically coordinating a seminar for supervisors. This is tailored to Department policies and needs with emphasis on the supervisor's role in administering a successful affirmative action program. The seminar is taught by University of Missouri faculty.

The Department operates, in conjunction with the University of Missouri, a "Co-Operative Civil Engineer Training Program", coordinated by Personnel. This work-academic program provides promising civil engineering students with on-job technical experience by alternating work with University of Missouri attendance.

Students graduating from this program have actual experience in most phases of highway and transportation engineering and become productive with minimal orientation and training. The

Co-Operative Program is also beneficial when recruiting engineers becomes difficult due to starting salaries for graduates. It is also an aid in the Department's Affirmative Action Program.

Internal training programs, conducted by Department staff, are held as specific needs indicate. As an example, during 1981, the Maintenance and Traffic Division conducted training sessions for maintenance supervisors on employee performance appraisals and traffic signal seminars.

To encourage good Department-employee relations, all personnel transactions are reviewed by the Personnel to attain uniform salary administration and policy application. Job evaluations are conducted when needed to maintain accurate job specifications and internal salary equity.

The Department makes every effort to maintain an adequate salary structure and employee benefits program within budgetary limitations. Personnel assists by conducting compensation surveys to formulate recommendations. A review of prior wage service credit awarded employees toward retirement to determine equity under the present retirement statutes continued.

Further data processing applications were made to the centralized personnel records, permitting quick access to data required for state, federal and management information reports. The Unemployment Insurance Program for employees continued.

Numerous special reports and studies were compiled by Personnel to analyze effective utilization of employees and to monitor the progress of various programs.

The Department had 5,855 salaried employees on December 31, 1981, compared to 6,196 on

December 31, 1980. Due to budgetary restraints, no temporary employees were employed during the summer. Temporary employees were hired for emergency work such as road maintenance during snow storms. The Department has reduced the number of salaried employees from 6,941 in 1970, primarily through attrition, to correspond with declining revenue.

During 1981, 131 employees were processed for retirement from the Department. Twelve were between ages 55-59 with 15 or more years' service; 78 were between ages 60-64 with 15 or more years' service; 21 were between ages 65-70; and 20 qualified for disability benefits. Early retirement prior to age 65 continues to be the trend. The Highway Employees' and Highway Patrol Retirement System is currently paying benefits to 1,888 Department retirees or eligible survivors. The Department monitors pension system trends to evaluate what improvements in Retirement System benefits are feasible, while maintaining actuarial soundness.

As part of its overall Affirmative Action Program, the Department is committed, under Title VI, to encourage, develop and implement programs to assure that minority and female-owned business enterprises are afforded every opportunity to participate in state and federally-assisted programs as contractors, consultants and suppliers.

The Department has made an effort to reduce selected contract size to provide more entry opportunities for smaller, less experienced minority female-owned

firms. The Department has also allowed joint ventures in order to provide more entry opportunities.

The Department distributes an annual, unupdated list of Missouri and surrounding area minority and female-owned businesses to all contractors qualified to bid on work and to political subdivisions having initiated FAU projects, encouraging them to use these firms.

Bidders on construction projects in Missouri are required to take affirmative action in attempting to utilize minority and female-owned firms on project portions they intend to subcontract.

The Department works with minority and female-owned agencies and contractor associations to increase their participation on various Department projects. Copies of news releases advertising lettings are sent to minority newspapers as well as associations for minority and female-owned contractors.

Through its affirmative efforts, \$13,303,478.16 in federal-aid contracts and subcontracts were awarded to minority and female-owned firms by the Department during 1981. This is a significant increase over last year's awards of \$10,015,648.82.

The Department will continue its efforts to further minority and female-owned business participation in state and federally-assisted programs.

CONSTRUCTION

Construction work continues on Interstate 170 in the St. Louis area, Interstate 299 in St. Joseph and Interstate Routes 435, 670 and 470 in the Kansas City area. In addition to this work, construction was active on three new bridges over the Missouri River plus repair work on the ASB Bridge in Kansas City.

Cost for inspection of construction projects was maintained at a low level by upgrading equipment, additional training of personnel and reduction in personnel.

Awards were made on 134 construction projects in 1981. This represents 280 miles of road construction.

One hundred seventeen projects included Federal-Aid while 17 projects were financed entirely by state funds. The money value of the awards, including engineering and non-contractual costs, totaled \$178 million.

MONEY VALUE OF 1981 AWARDS

Interstate System	\$ 73 million
Primary System	\$ 81 million
Supplementary System	\$ 18 million
Non-Contractual Cost	\$ 6 million
TOTAL	\$178 million

ACTIVE PROJECTS AS OF DECEMBER 31, 1981

<u>System</u>	<u>Awarded In 1979</u>	<u>Awarded In 1980</u>	<u>Awarded In 1981</u>	<u>Total</u>
FEDERAL-AID				
Interstate	0	8	24	32
Primary	2	5	54	61
Supplemental	0	2	14	16
Off-System	0	0	11	11
Sub-Total (FA)	2	15	103	120
100 PERCENT STATE FUNDS				
Interstate	0	0	0	0
Primary	0	1	9	10
Supplemental	0	0	5	5
Sub-Total (St.)	0	1	14	15
GRAND TOTALS	2	16	117	135

The Interstate system contracts involved new construction, upgrading existing dual facilities to Interstate standards, rest areas, highway beautification and implementing the latest safety features for highway traffic. Approximately 12 miles were completed to Interstate standards this year. There are now under construction approximately 25 miles of Interstate road.

The Primary and Supplementary system contracts include costs of construction work in rural and urban areas and projects financed either with Federal-Aid or with 100 percent state funds. They include new construction, bridge replacements and widening projects. Where applicable, the latest safety features were included.

ACCOUNTING

The accounting and expenditure control for the Department is the responsibility of the Accounting Division. All of the Department's records of financial transactions are processed and recorded by this Division.

Based on anticipated revenues and disbursements, the Division prepares legislative budget requests well as annual internal budgets.

The Division reviews all payment documents for accuracy, priority of payment and to determine if funds are available prior to recording and certification for payment.

The Division processed 149,904 checks during 1981, which represents disbursements of \$415,511,244.95. Disbursements through gas tax refunds and other state departments from highway funds equaled \$76,105,063.10. Total disbursements for 1981 equaled \$491,616,308.05.

Workers' Compensation benefits and medical care payments are made by the Department's insurance

carrier. However, these payments are routed through Accounting and recorded to insure accuracy of fiscal records. There were 694 Workers' Compensation cases processed this year.

The Division has the responsibility for administering the regulations and policies of the Highway Employees' and Highway Patrol Medical and Life Insurance Plan. As of December 31, 1981, there were 8,807 health insurance plans and 7,539 life insurance plans in force. For the period from January 1, 1981, through December 31, 1981, there were 18,861 health claim payments with \$7,348,211.81 paid out in benefits and 32 life claims with \$150,985.69 in benefits paid to survivors.

MATERIALS & RESEARCH

Materials and Research is responsible for inspection, testing and approval of materials used in maintenance and construction of the highway system. The Division also conducts research regarding materials, design and procedures for improved performance or reduced cost; subsurface investigation of bridge and highway foundations; and is responsible for the design of all bituminous and concrete mixtures.

Field inspection, testing and approval of materials used in highway maintenance and construction are performed by personnel assigned to each of the ten Districts. The Division provides technical assistance and advice to the District personnel regarding materials inspected and new procedures required.

The Division's Central Laboratory is located in Jefferson City. It is a nationally recognized and approved laboratory for testing of highway materials. For an

unprecedented third year in a row, the Central Laboratory received a perfect score from the American Association of State Highway and Transportation Officials Reference Laboratory inspection team.

All materials requiring specialized testing were shipped to the Central Laboratory. To insure

lower cost materials and procedures for control of soil erosion; investigation of special systems to help prevent bridge deck deterioration; the performance of different pavement designs; and the study of deterioration of concrete pavements. Many smaller projects such as condition surveys on

1981 Commonly Used Materials Inspected, Tested and Approved

Aggregates	7,087,052 Tons
Cement	274,159 Tons
Reinforcing Steel	17,720 Tons
Culvert Pipe	
Corrugated Metal	35,752 Linear Feet
Vitrified Clay and Concrete	82,788 Linear Feet
Joints - Bituminous, Fiber and Metal	112,334 Linear Feet
Joints - Rubber	19,572 Square Feet
Guardrail	52,116 Linear Feet
Posts, Metal	56,082 Posts
Lumber and Square Posts	469,317 Board Feet
Piling and Round Posts	12,545 Linear Feet
Bituminous Material	
Cutback and Penetration	22,090,624 Gallons
Emulsified	23,302,235 Gallons
Paint	267,368 Gallons

uniformity of testing procedures throughout the state, many of the materials tested in the field were also tested in the Central Laboratory. A total of 20,708 samples were tested in the Central Laboratory during 1981, including those of an experimental or investigative nature. Quantities of commonly used materials inspected, tested and approved in 1981 are shown in the table contained in this Division report.

Eleven major research projects were underway in 1981. The research involved investigation of

individual bridges and investigation of proposed new highway materials were completed.

As part of the Department's continuing efforts to conserve materials and cut costs, a state-wide survey of solid waste products was conducted during the spring of 1981. This survey revealed 305 locations where waste materials totaling some 80 million tons are accumulating at a rate of approximately five million tons per year. The greatest tonnages of waste are in the form of ore tailings totaling in excess of 31 million tons. This is followed by electric utility waste totaling some 11 million tons in the form of fly ash, cinders and boiler slag. Considerable tonnage of metallurgical slag, quarry overburden and organic waste in the form of sawdust also

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exist. This survey provided an inventory of the type of waste, its location, quantities available, rate of accumulation and accessibility.

The Division tested and made recommendations regarding materials on which highways and bridges will be built. Subsurface information was obtained by use of drilling equipment and personnel headquartered in Jefferson City. Personnel assigned to the Jefferson City Division office analyzed materials and made recommendations regarding the fills to be used on highways, steepness of side slopes and any other items concerning the soils or materials to be encountered on a proposed roadway. Major projects performed during the year include 53 special foundation investigations and drilling of 34 proposed bridge locations.

EQUIPMENT & PROCUREMENT

This Division is responsible for procuring and maintaining an equipment fleet that will efficiently and effectively carry out Departmental functions. At the close of 1981, the Division was maintaining 5,947 rental units consisting of passenger cars, trucks, carryalls, tractors, mowers, motorgraders and various miscellaneous units.

Data evaluation from synthetic engine oil field tests was completed during the year. Oil use cannot be justified from a fuel and oil reduction standpoint alone. Other factors such as decreased maintenance and increased engine life would have to be considered and would require extensive, detailed analysis under closely controlled conditions.

The Department program for monitoring fuel usage continued throughout 1981. Results show a 7.6 percent gasoline consumption reduction and a 6.4 percent diesel consumption reduction over 1980. Prices continued to escalate as

average gasoline prices increased 9.3 percent and diesel prices increased 16.8 percent over average 1980 prices.

It required 6,245,645 gallons of gasoline, 198,596 gallons of kerosene and 1,450,840 gallons of diesel fuel to operate the fleet. In addition, 30,899 gallons of anti-freeze, 78,981 gallons of lubricating oil, 28,069 gallons of hydraulic oil and 86,414 pounds of multi-purpose gear oil and lithium grease were used. Tires and tubes costing \$946,363.30, tire chains costing \$18,643.51, and shop equipment, parts and supplies totaling \$3,605,462.58 were contracted for during the year.

The Headquarters Sign Shop produced 71,290 signs and markers of various shapes and sizes amounting to \$810,288.98 during the year.

The Division is also responsible for providing all tools, supplies and materials required in the operation of the Department. The quantities of the various materials purchased for use in the highway system maintenance are listed below:

Various Types of Asphalt	39,856,399 gallons
Gravel	516,100 cubic yards
Stone and Chat	921,560 tons
Paint	352,700 gallons
Reflectorizing Spheres	1,806,300 pounds
Sodium Chloride (Winter 1980-81)	61,894 tons
Calcium Chloride (Winter 1980-81)	3,593 tons
Agricultural Seed	43,045 pounds

BRIDGE

This Division is responsible for the design of all bridge structures on the state highway system.

During the year, 68 designs were completed for letting by this Division. Of this number, 36 were designed for major system routes with 32 to be built on supplementary routes.

The total length of all new structures contracted during the 1981 calendar year amounted to 21,687 feet at a cost of \$42,234,928. Of these amounts, 7,557 feet at a cost of \$14,675,386 were designed for supplementary routes.

Included in the above statistics are contracts for portions of two large structures. Contracts were let for the erection of superstructure steel on the westbound Route 40 viaduct in St. Louis; and for the substructure piers on a new Route 9 bridge to replace the existing ASB Bridge at Kansas City.

In addition to the designs for new structures, 23 designs were prepared for the repairing, widening or extending of 13,147 feet of existing bridges at a cost of \$9,882,155.

This Division assists in the inspection and rating of off-system or county municipally-owned bridges as part of the Federal Highway Administration Bridge Replacement and Rehabilitation Program.

The program of rating all bridges on the state highway system is also continuing in this Division.

MAINTENANCE & TRAFFIC

During 1981 the total roadway mileage maintained by the Division increased eight miles to total 33,895 miles. This mileage includes recreational access roads, outer roadways, ramps, service roads and maintenance agreement sections.

One major expenditure by the Division is on low-type, bituminous-surfaced routes. To reduce this maintenance expenditure, the Division reduced the maintenance surface treatment program. The 1981 leveling course was 2,344 miles--a reduction of 36 percent over 1980. In 1980 the Department eliminated the contract leveling course program.

A major objective for cost and energy control continues to be a reduction in cutback asphalt use. In 1981, 26,658,050 gallons of emulsified asphalt and 13,198,349 gallons of cutback asphalt were used. Sixty-seven percent of total asphalt used was emulsified asphalt. In 1981, approximately 39,856,000 gallons of asphalt and 1,913,309 cubic yards of aggregate were used in bituminous surface and patching operations.

The Department continued to build pool parking areas in and adjacent to metropolitan areas. In December, 1981, 3,864 spaces were available, 690 of those built in 1981 for a yearly increase of 22 percent. The average daily usage in the last quarter of 1981 was 2,465 cars compared to 2,051 in the last quarter of 1980.

To further reduce expenditures, the Department changed mowing policies, which reflected approximately a 25 percent reduction in acres mowed during the year. This 25 percent reduction follows a 1980 25 percent reduction. During 1981, approximately 223,000 acres

of right-of-way were mowed. In addition to this expenditure, \$1,685,000 was spent on litter pickup. This was a 32 percent increase over 1980 expenditures.

Division personnel made routine inspections of approximately 6,483 state-maintained bridges to determine their condition and need of repairs. Structural repairs were made on 94 bridges. Nineteen structures were also repaired because of major collision damage. Division paint crews painted 90 bridges during the year. Fifty-seven or 0.9 percent of state bridges were treated with linseed oil and mineral spirits to protect bridge decks against chlorine damage.

The Department is now maintaining 20 rest areas on the Interstate system. Four include tourist information centers.

Efforts to control Johnsongrass continued, especially in counties adopting the Johnsongrass law. In 1981, approximately 5,100 acres were sprayed by contract; and approximately 5,900 acres were sprayed by maintenance forces. Approximately 17,200 acres were chemically treated to control other weeds and brush.

The quarterly energy consumption report to the Missouri Department of Natural Resources was continued. For the first three quarters of 1981, 33 percent less fuel was used than in the same period in 1978, and 35 percent less than was used in the first three quarters of 1979. These reports covered gasoline and diesel fuel used in the Department's cars, trucks and other equipment along with heating, air conditioning and lighting for all Departmental buildings. Overall 1981 usage was 9 percent less than our 1980 usage.

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There were 88,407 overdimension, overweight and overdimension/overweight special permits issued during 1981. Of the total, 23,219 or 26 percent were issued by the 10 District Offices. Included in the total were 2,346 permits issued to governmental agencies or subdivisions without fees.

The winter of 1980-81 was fairly mild when compared to the three previous winters. As a result, usage of snow and ice chemicals was greatly reduced. During the 1980-81 season our snow and ice control costs were \$9,769,080. This was a 30 percent reduction in cost for the 1979-1980 winter.

Other 1981 activities included the upgrading and installation of traffic control equipment, and monitoring traffic flow to determine problem traffic congestion.

There were 911 billboards removed by property owners and 155 removed by state forces under the outdoor advertising laws and regulations.

Activities funded from 402 Program funds under the 3+ Standards of the Missouri Highway Safety Program as coordinated by the Department are as follows:

*The Traffic Engineering Assistance Program--This is a program established to aid political subdivisions with traffic engineering problems where a comprehensive view is required and where the subdivision does not have the personnel available to carry out the review. These services are performed by consultants retained by the Commission for this purpose. Thirty-two studies were conducted in 24 political subdivisions. The average cost decreased \$157 each from 1980's cost for an average of \$2,913 per study.

*Bridge Engineering Assistance Program--This is a program

established to aid political subdivisions in obtaining information on the structural adequacy of bridges under their jurisdiction. These services are performed by two consultants retained by the Commission on a yearly contract and several other consultants retained on a cost-per-bridge basis. These services included, in addition to determine structural adequacy, the inventory of off-system bridges, including the establishing of posted weight limits and priorities for repairs or replacement of bridges. Structural adequacy reports and inventories were conducted on approximately 110 bridges during the year, costing a total of \$81,100.

*The Sign Reclamation Plant is continuing as one of the major savings accomplishments. This plant has been in operation since September, 1977. Currently 79 percent of the metal signs now provided to the District are reclaimed signs from the Sign Reclamation Plant. During 1981, a total of 47,390 signs or 200,563 square feet of signs were reclaimed by our plant. In addition, other component parts of signing hardware were salvaged by the Reclamation Plant. Through plant operation, a savings of \$1.32 per square foot or \$265,700 for signing and \$20,834 for the other component parts was realized. The savings to the state through this operation during calendar year 1981 amounted to approximately \$286,500.

In 1981, due to the financial situation, the Department continued a reduced striping program. On routes authorized for two or more centerline and edgeline stripings, the first striping was eliminated when not required. Non-urbanized area edgeline striping will be conducted every two years rather than yearly. As a result, a total of 54,100 miles of stripe were placed in 1981 compared to approximately 71,900 miles of stripe placed prior to 1980. This total includes 34,300 miles of centerline and lanelines, 11,800 miles of edgelines and 8,000 miles of No Passing zones. To complete this work approximately 380,000 gallons of paint and 1,947,000 pounds of reflectorized glass beads were used.

The Maintenance Management System started in 1979 continued to take shape. In 1981 unit cost for maintenance activities were obtained. The Districts were provided with log listings and summaries of the roadway features they maintained. Twenty-six activity guides which outlined the work procedures and optimum crew size were prepared for distribution. The training program for mowing was revised and ready for use during 1982.

SURVEYS & PLANS

Surveys and Plans Division is responsible for plan preparation and letting contracts for highway improvements. Plan preparation includes necessary field surveys and photogrammetric surveys for route location. Most projects require involvement with the public and coordination with local, state and Federal agencies. One or two formal public hearings obtain public input and explain the need and purpose of each major highway improvement.

Assessment of environmental impacts for each project are considered. This includes air quality evaluations, noise studies, and cultural, social and economic considerations.

Prior to letting highway improvements, right-of-way is acquired, arrangements made for disposition of utility conflicts and permits and licenses as applicable are obtained from state and Federal agencies.

In 1981, 11 lettings were held and construction projects totaling \$172,238,075.45 were placed under contract. An average of 5.32 bids were received per project.

Prices decreased during 1981 with the Missouri average composite cost index closing at 156.6. A new base of 100 was established for calendar year 1977. The 1981 cost index reflects a 9.6 per cent decrease when compared with the

1980 cost index of 173.3.

The Surveys and Plans Division also administers several Federal-Aid programs that provide funding for city, county and rail highway safety improvements.

The Federal-Aid Urban Program provides Federal funding for street and highway construction in cities and urban areas over 5,000 population. During 1981, approximately \$10,475,100 was obligated in cities throughout the state for this program. The FAU funds are generally used to finance 75 percent of the cost of eligible projects with local jurisdiction providing the 25 percent matching funds.

The Off-System Bridge Rehabilitation and Replacement Program provided Federal funds for bridge repair and replacement on county roads not on the Federal-Aid System. During 1981, approximately \$822,000 was obligated for projects qualifying for this program.

The Rail-Highway Safety Program provided Federal funding to improve rail-highway crossing safety. Contracts were completed

for about 100 signal installations and the remaining 100 locations are under negotiation for railroad signal placement on and off the Federal-Aid system, which includes 90 city street locations. This program will cost approximately \$11,000,000. A program started in 1978 to provide the minimum required warning devices at all railroad crossings in the state continued in 1981. Upon completion, this program will involve placement of approximately 5,000 reflectorized crossbucks, 6,400 advance warning signs, and 2,035 advance pavement markings. The cost of the program will be approximately \$1,200,000 and is about 98 percent complete.

Federal-Aid funds were used to improve the railroad grade crossings rideability. Low volume crossings were improved with a bituminous surface. High volume crossings were improved with a rubber or concrete surface. In 1981, 150 low volume and 28 high volume crossings were improved.

The following table provides a resume of awarded projects for 1981:

<u>1981 REPORT</u>	<u>AWARDS</u>	<u>MILES</u>	<u>PROJECTS</u>
Interstate System	\$72,857,020.37	55.559	35
Primary System	80,952,579.19	166.832	63
Supplementary	18,428,475.89	46.071	35
Total: Construction by Contract	172,238,075.45	268.462	133
Maintenance Work by Contract	67,708.09	0.316	2
Off-Systems Roads Contract	256,032.44	3.627	11
FAU Funds (Awarded on State System)	1,734,283.91	7.615	10

PLANNING

Planning is responsible for the collection, analysis and projection of data used for the development of state improvement programs. The division also maintains historical records for future reference.

Comprehensive urban transportation planning was continued in cooperation with local officials in the urbanized areas (Over 50,000 population) of Columbia, Kansas City, St. Joseph, St. Louis and Springfield. The transportation planning process included evaluating multimodal transportation needs and providing input to short range and long range transportation improvement programs.

Traffic volumes and data on the number of cars and different sizes of trucks were gathered on the state highway system for use in designing, maintaining and programming projects. In order to gather this information, approximately 4,500 vehicle counts and 114 vehicle classification studies were made throughout the state. The 1981 travel on the state highway system increased 2.2 percent over 1980. Speed data was obtained throughout the year by monitoring 34 separate locations for a minimum of 24-hour periods.

The Supplementary Service Rating was published evaluating the

condition, safety and service of the system. Physical and geometric data was updated for the future publication of the Interstate, Primary and Bridge Service Ratings.

Information required to update the National Highway and Performance Monitoring System was prepared.

Financial projections were made based on the latest available data and a "Highway Right-of-Way and Construction Program" was developed for the Interstate, Primary and Supplementary systems.

County and city maps were revised or redrawn as the updating material became available. During the year 27 county highway maps were revised and 90 city streets and urban maps were updated. As a cost effective measure, the "Official Highway Maps" were developed to cover a two-year period. Approximately 2,000,000 of these maps were printed for public distribution.

The following table shows the status of the state highway system as of December 31, 1981:

STATUS OF THE STATE HIGHWAY SYSTEM AS OF DECEMBER 31, 1981

<u>SYSTEM</u>	<u>ROAD MILES</u>
Interstate	1,114.337
Primary	6,835.282
Supplementary	24,233.157

<u>TOTAL</u>	32,182.776
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TYPE

Oiled Earth	0.000
Granular	4.274
Low Type Bituminous	24,963.350
High Type Bituminous	4,337.613
Concrete	2,877.539

<u>TOTAL</u>	32,182.776
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RIGHT OF WAY

During 1981 the cost of right-of-way acquired for highway construction totaled \$8,939,037.

The Division acquired 314 parcels -- 268 by negotiated settlement (or 85 percent) and 46 by condemnation (or 15 percent).

Payments totaling \$694,135.85 were made in 1981 under the Relocation Assistance and Payment Program to assist displaced families, business and farm operations in relocating. During the year, 233 relocation claims were processed and paid.

During the year, Right-of-Way Division obtained appraisals for 436 parcels. Two separate appraisals were prepared for 22 percent of the parcels involved, making a total of 532 appraisals produced. An average of 37 parcels were appraised each month, which required an average production of 45 separate appraisals per month.

Receipts from the sale of improvements located on right-of-way acquired for highway construction and from the sale of excess property totaled \$355,894.

Rental of advance acquisitions and excess property resulted in an income of \$167,591.39 and \$154.75 was derived from miscellaneous sources.

LEGAL

In 1981, 25 condemnation cases brought about acquisition of 95 land parcels needed for highway improvement projects. A total of 162 condemnation cases were disposed of at the trial level, 26 appellate court decisions were made in cases involving the Commission. Final case judgements recovered \$1,217,852.03 previously paid into the court in commissioners' awards.

Ten actions were filed in circuit court to collect for damage to Commission-owned property, and nine such cases were disposed. A total of \$644,166.39 was collected on 1,478 damage claims to Commission-owned property. Litigation was necessary to collect amounts in some of these claims.

During the year, 14 additional cases were filed in court for various purposes. Most related to Beautification Law enforcement pertaining to junkyards and outdoor advertising. This office also disposed of 58 cases not related to those already mentioned.

Seventy-five administrative hearings were conducted. Most related to Outdoor Advertising Law enforcement. Nineteen petitions were filed in circuit court for review of the Commission's orders in reference to outdoor advertising. Eighteen actions were filed on behalf of the Commission to compel unlawful outdoor advertising sign removal.

There were 55 actions filed against the Commission for such matters as tort claims, contractors' claims and inverse condemnation proceedings. This office also collected \$25,918.81 in miscellaneous claims.

In addition to the litigation handled by this office, all contracts involving the Commission were prepared or reviewed.

PUBLIC INFORMATION

Listen to the public, respond to their questions and provide them with information telling them how their tax dollars are best utilized. That's what the Public Information Division is all about. One million official highway map requests were filled by this Division, while 250 news releases were dispursed throughout the state.

Special emphasis was placed on informing taxpayers of the causes and effects of the Department's current financial crisis, greatly expanding the Division's work in this area over the past years. A special edition of the monthly employee publication, Highway NEWS, told this story to readers, as did posters, T-shirts, slide shows, graphic displays, pamphlets and booklets. A pocket-sized Department fact book was well-received by every audience in the state. Personnel prepared speeches for Department officials, as they stepped up efforts to tell groups our story.

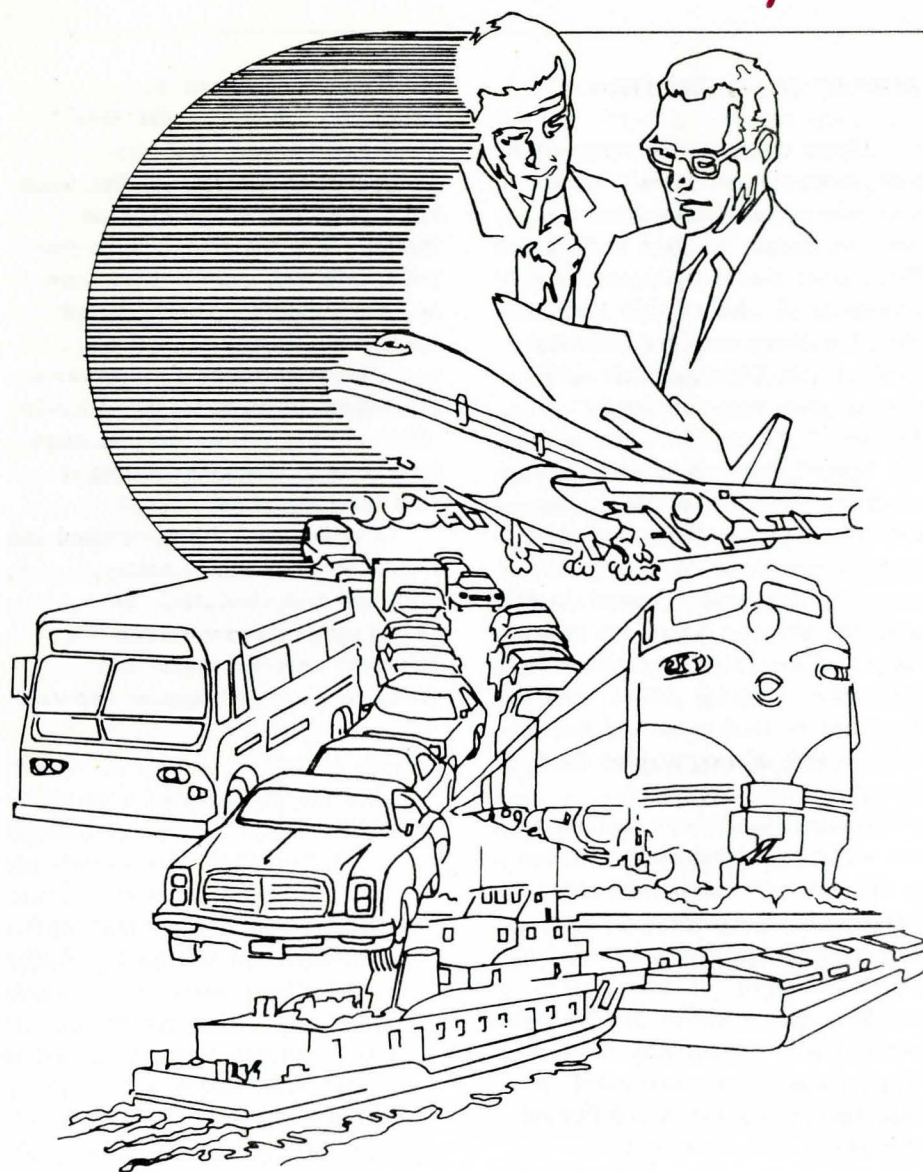
Meanwhile, routine matters were carried out. A state-wide newspaper clipping service was maintained to keep Department officials informed of highway and transportation coverage and comment. Information from this is also used for traffic study needs and supplies the Planning Division with county and city financial data for study.

Personnel manned an information booth at the Sedalia State Fair Highway and Transportation Gardens exhibit while slide shows ran in the Gardens theatre. For the first time in many years, however, county maps were not distributed to patrons due to the current financial situation.

Also affected by finances were the official highway maps. To help offset printing costs, two-year maps were printed. Those requesting it paid for its postage.

The Division also maintained the Department's technical library, organized and conducted the Department's 25-year service employee awards banquet and produced the 1980 Annual Report.

Transportation



TRANSIT

The transit section assists in the planning, development and operations of public transit systems and specialized paratransit systems in the state. This function is carried out through administration of state and federal programs relating to public transportation with specific programs for the elderly and handicapped.

The Missouri Elderly and Handicapped Transportation Assistance Program provides state financial assistance for nonprofit organizations offering transportation services to the elderly and handicapped at below cost rates. In 1981, \$716,363 state general funds were matched with approximately \$2,149,000 in federal funds to subsidize essential transportation services. Total monetary assistance generated by this program was approximately \$2,865,452.

Transit also administers funds made available by the U. S. Urban Mass Transportation Act of 1964, as amended. Under Section 18, money is available for planning, capital and operating assistance for public transit systems in non-urbanized Missouri areas. An inventory of local transportation services and needs was continued by the completion and updating of all regional transit studies. In addition, transit studies were initiated for 12 cities during the year.

During 1981, \$1,760,467 in federal funds were approved for local capital and operating projects. Federal funds may be used to match local funds for capital purposes on an 80 percent/20 percent local basis. Federal funds also may be used to defray 50 percent of a transit system's operating losses.

Another section of the Act provides federal capital and operating assistance to transit systems

urbanized areas (over 50,000 population). The Department administers this program for Columbia, Springfield and St. Joseph. In 1981, the Department approved for payment \$1,911,325.51 in federal aid to the transit systems in the three eligible areas.

Capital assistance to nonprofit organizations giving transportation service to the elderly and handicapped is provided by Section 16(b)(2) of the Act. In 1981, this program provided over \$562,248 federal assistance. This was matched with over \$140,500 in local funds for the purchase of 49 vehicles, wheelchair lifts, ramps and similar equipment for elderly and handicapped transportation.

AVIATION

The purpose of Aviation is to promote this travel mode and to encourage the development of airports and other aviation facilities within the state. Aviation personnel may provide technical advice to any airport sponsor or others interested in the planning, acquisition, construction or expansion of an airport.

Aviation provides financial assistance to Missouri cities, towns or counties through two grant programs. The Capital Improvement Grant Program provides financial assistance to sponsors of publicly owned airports for planning, construction or expansion. Funds under this program are granted on a 50 percent state/50 percent local matching basis.

A new grant program, initiated in 1981, is the Airport Maintenance Grant Program. Financing for this program is derived from the unrefunded motor fuel tax portion that is applied to aviation gasoline. Under the maintenance program funds may be granted to airport sponsors on a 75 percent state/25 percent local basis for maintenance on runways, taxiways, parking aprons and for emergency repairs. A portion of the unrefunded fuel tax monies are also used for the annual publishing and distribution of the Missouri Aeronautical Chart and Airport Directory.

As a result of the Airline Deregulation Act of 1978, Aviation monitors the Small Community Essential Air Service Program which is regulated by the Civil Aeronautics Board. The Act requires all actions affecting the air service to smaller communities be coordinated with state aviation agencies.

Under a contractual agreement with the Federal Aviation Administration, Aviation inspects the general airports, both publicly and privately owned, throughout the state.

Missouri has a total of 377 airports. One hundred sixteen are publicly owned and 261 are privately owned. There are 4,142 active general aviation aircraft and 15,968 active pilots in the state. Eight airports provide scheduled air transportation and enplaned approximately 8 million passengers in 1981.

During 1981 Aviation provided 21 capital improvement grants for a total of \$342,000 and 12 maintenance grants totaling \$159,179. The Missouri Aeronautical Chart and Airport Directory was published for a cost of \$12,095. The Federal Aviation Administration granted airport improvement funds totaling

\$16,830,750 to Missouri airports during the period.

There were 147 airports inspected under the FAA Airport Master Record (5010) Program and 112 obstruction evaluations performed.

The General Aviation Forecasting Section of the Missouri State Airport System Plan was updated and a study design for the St. Louis Metropolitan Area General Aviation System Study was completed during the year.

The Aviation staff conducted a hearing before representatives of the Civil Aeronautics Board (CAB) concerning Sedalia's appeal of a previous adverse CAB essential air service decision.

WATERWAYS

Waterways provides technical assistance to local port authorities throughout Missouri in promoting private capital investment, in increasing the volume of commerce and in the establishment of a free trade zone within their port districts. Every city or county which is situated upon a navigable waterway may form a port authority. Ten port authorities have been formed along the Missouri and Mississippi Rivers.

In addition to providing technical assistance, Waterways also provides funding to assist the port authorities develop port sites. During 1981, \$335,700 of grants were made to nine port authorities and the Bi-State Development Agency (the coordinating agency for the Port of Metropolitan St. Louis). These funds are used by the recipient for managerial, engineering, legal, research, promotion, planning and other non-construction related expenses.

Guidelines were developed by Waterways during 1981 for the administration of a capital improvement program. This program would provide funds, on a matching



basis, to local port authorities for specific projects involving land acquisition, construction, terminal facilities development and other related activities. These guidelines will be used to insure uniform compliance among the applicants for funding under this program and also to insure the acceptability of the work upon its completion.

An update of the "Statewide Waterborne Commerce and Port Development Plan" was initiated during 1981. The update is scheduled for completion in early 1982. It will provide an accurate assessment of existing port facilities and a formulation of future needs in the development of additional port facilities.

PORT SITE DEVELOPMENT GRANTS

Kansas City Port Authority	\$ 35,900
Howard/Cooper County Regional Port Authority	35,400
St. Louis County Port Authority	15,500
St. Louis City Port Authority	30,000
Jefferson County Port Authority	35,700
Southeast Missouri Regional Port Authority	44,000
Mississippi County Port Authority	29,000
New Madrid County Port Authority	38,000
Pemiscot County Port Authority	55,200
Bi-State Development Agency	17,000
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RAILS

Railroads participate in the Federal Local Rail Service Assistance Program. This program incorporates both statewide rail planning and rail project implementation through assistance grants sponsored by the Federal Railroad Administration.

Railroads were active during 1981 in rail planning, rail projects and the Amtrak 403(b) program.

During this program year, rail planning funds in the amount \$100,000 (federal share) and \$25,000 (state share) enabled the Department to prepare the Missouri Rail Plan -- 1981 Update, as well as address various rail issues affecting the state such as rail mergers and branch line abandonments.

Two rail projects were undertaken or continued respectively during this program year. The first project dealt with the continuation and completion of the Illinois Central Gulf Railroad's Mexico, Missouri to Fulton, Missouri branch line (24.55 miles in length). This project called for tie renewal, surfacing, rail and roadbed reconditioning and the rebuilding of two bridges to upgrade the track to Class II Safety Standards--25 mph operating speed. This project cost was \$1,358,710.

The second rail project dealt with a rail line owned by the Missouri-Kansas-Texas Railroad Company extending from La Due, Missouri to the Missouri/Kansas state line (56.6 miles in length). This rail project was virtually completed by the end of this program year except for clean-up operations expected to be completed by February 1982. This project called for both track and bridge rehabilitation to Class III Safety Standards--40 mph operating speed. This project cost was

\$2,839,000. A continuation of this project rehabilitation is planned for the next program year and consists of rail renewal to replace 90-pound jointed rail with 112-pound, second-hand, continuous-welded rail plus other track material and turnouts. Resurfacing, bridge adjustments and other work, while not included, will be performed by the railroad itself. This rail renewal on the entire line is estimated to cost \$11 million.

Missouri's Amtrak 403(b) program during this program year continued with the Ann Rutledge beginning its third year of operation under a funding ratio of 50 percent federal funds and 50 percent state funds (\$954,000). The "St. Louis/Kansas City Mules" began their second year of operation under a funding ratio of 65 percent federal funds and 35 percent state funds (\$580,000).

Other Amtrak highlights for this program year included special passenger service to the Hermann Maifest, a schedule change which allowed for same day round-trip travel between St. Louis and Kansas City, and the addition of Lee's Summit as a passenger stop.

Financial Summary

Receipts

BASIC REVENUE:

Motor Vehicle License	\$104,059,944.22	
Motor Bus & Truck Fees	2,569,443.00	
Motor Vehicle Use Tax	16,351,684.35	
Drivers License Fees	4,938,294.64	
Motor Vehicle Inspection Fees	1,963,255.00	
Motor Fuel Tax Receipts	153,995,497.32	
Vehicle Sales Tax Receipts	<u>22,325,971.07</u>	
Sub-Total		\$306,204,089.60

FEDERAL REIMBURSEMENT:

Federal Highway Administration	\$192,831,029.55	
Corps of Engineers	<u>556,478.24</u>	
Sub-Total		193,387,507.79

INCIDENTAL RECEIPTS:

Refunds - Highway Fund	\$ 132,433.97	
Refunds - Road Fund	11,540,830.11	
Reimbursement to Road Fund for Transportation Expenditures	3,420.19	
Deposit by St. Charles County	7,500,000.00	
Political Subdivisions	<u>5,593.34</u>	
Sub-Total		19,182,277.61

TRANSPORTATION:

General Revenue Fund	\$ 2,286,868.37	
Federal Fund	5,656,562.32	
Transportation Trust Fund	301,702.32	
Aviation Trust Fund	<u>219,685.48</u>	
Sub-Total		8,464,818.49

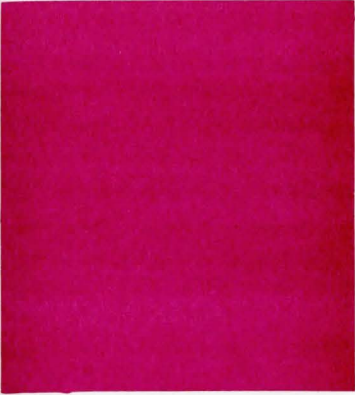







INTEREST INCOME - ROAD FUND 5,828,044.54

MISCELLANEOUS ESCROW FEES 179,689.51

MISSISSIPPI RIVER PARKWAY COMM. 7,838.21

TOTAL RECEIPTS \$533,254,265.75

Expenses

	\$249,795,525.58	CONSTRUCTION
	123,062,321.39	MAINTENANCE
	68,442,419.46	OTHER STATE DEPARTMENTS
	28,813,521.07	ADMINISTRATION
	7,905,657.73	TRANSPORTATION FUNCTION
	7,662,643.64	GAS TAX REFUNDS
	5,926,380.97	O.A.S.I. (HIGHWAY)
	<u>7,838.21</u>	MISSISSIPPI RIVER PARKWAY COMM.
	<u>\$491,616,308.05</u>	TOTAL DISBURSEMENTS

MoDOT Library



RD0017691